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**Psychopathology and Marital Discord in  
Parents of Socially Deviant Children**

**Mary-Anne Back**

**A Thesis  
in  
The Department  
of  
Psychology**

**Presented in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy at  
Concordia University  
Montréal, Québec, Canada**

**May, 1988**

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## ABSTRACT

### Psychopathology and Marital Discord in Parents of Socially Deviant Children

Mary-Anne Bäck, Ph.D.  
Concordia University, 1988

The present study examined three dimensions of parental functioning, namely emotional adjustment, marital adjustment, and overt expression of marital hostility in relation to the psychosocial adjustment of offspring. The study also examined differences between boys and girls in their vulnerability to parental maladjustment. The sample consisted of 180 children who were rated by peers as aggressive, withdrawn, both aggressive and withdrawn, or socially normative. The indicators of parental adjustment were the Symptom Check List -90, the Short Marital Adjustment Test, and the O'Leary-Porter Scale of Overt Marital Hostility. Four measures of adjustment in children were employed. Aggression and withdrawal were assessed by means of the Pupil Evaluation Inventory, a peer nominations sociometric instrument; behaviour problems and social competence were assessed by parents using the Child Behaviour Checklist. The child's perceived experience of social support was examined by means of the Provisions of Social Relations Scale.

The results indicated that different dimensions of children's adjustment were related to particular aspects of parental adjustment. Of the dimensions of children's functioning, aggressive behaviour as rated by peers showed the strongest association with both marital maladjustment and marital hostility. The child's experience of support from family was also related to marital adjustment. This pattern of results was consistent with the view that parental



support serves as a mediator variable in the relation between marital adjustment and aggressive behaviour in children. Behaviour problems in children as rated by parents were associated primarily with emotional disturbance in parents. Social competence in children was related only to the educational level and occupational status of parents. There were unexpected discrepancies between mothers and fathers as informants. Father reports of children's adjustment correlated more strongly with peer-rated aggression in children than did mother reports. These findings suggest that involvement of fathers in family life may be a moderator variable in the relationship between aggression in children and parental adjustment. There was no evidence of differences between boys and girls in vulnerability to parental maladjustment. Limitations and implications of the study were discussed.

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## DEDICATION

To my mother and brother, and in memory of my father and grandmother.

# TABLE OF CONTENTS

PAGE

## INTRODUCTION

Parental Psychopathology.....	6
Hypotheses Proposed by Rutter and Associates.....	12
Rationale for the Present Study.....	21
Rationale for the Selection of Variables.....	22
Summary of Hypotheses.....	32

## METHOD

Subjects.....	34
Measures.....	35
Demographic Variables.....	35
Social Desirability Response Set.....	36
Measures of Parental Adjustment.....	37
Individual Psychopathology.....	37
Marital Adjustment.....	38
Marital Hostility.....	39
Measures of Children's Adjustment.....	40
Peer Nominations of Aggression and Withdrawal.....	40
Social Competence and Behaviour Problems.....	42
Experience of Social Support.....	44
Procedure.....	45

## RESULTS

Data Analysis Strategy.....	47
Representativeness of Subjects.....	49
Analyses by PEI Category.....	52
Demographic Variables and SD Scores.....	52
Parental Adjustment.....	55
Selection of Covariates.....	55
Mother Report Measures.....	57
Father Report Measures.....	61
Discrepancies Between Analyses of Mother and Father Report Measures.....	68
Multiple Regression Analyses of the CBCL and the PSR.....	69
Mother Report SC Score.....	71
Relationship to Demographic Variables.....	71
Relationship to Maternal Adjustment.....	71
Father Report SC Score.....	72
Relationship to Demographic Variables.....	72
Relationship to Paternal Adjustment.....	72
Summary.....	73
Mother Report TBP Score.....	73
Relationship to Demographic Variables.....	73
Relationship to Maternal Adjustment.....	74
Sample of Boys.....	74

## TABLE OF CONTENTS (Continued)

	PAGE
Sample of Girls .....	76
Combined Sample .....	76
Summary .....	77
Father Report TBP Score .....	78
Relationship to Demographic Variables .....	78
Relationship to Paternal Adjustment .....	79
Comparison Between Mothers and Fathers .....	81
Child Report PSR Score and Mother Report Measures .....	82
Relationship to Demographic Variables .....	82
Relationship to Maternal Adjustment .....	83
Sample of Boys .....	83
Sample of Girls .....	83
Combined Sample .....	83
Summary .....	85
Child Report PSR Score and Father Report Measures .....	85
Demographic Variables .....	85
Relationship to Paternal Adjustment .....	86
Summary .....	86
Relationship Between Measures of Children's Functioning .....	86
 <b>DISCUSSION</b>	
Adjustment in Parents and in Children .....	90
Roles of Mothers and Fathers .....	94
Gender Differences .....	98
Limitations of the Present Study .....	99
Implications of the Present Study .....	103
 <b>REFERENCES</b> .....	 106
 <b>APPENDICES</b> .....	 118

## TABLES

PAGE

Table 1

Univariate F-Tests for PEI Effects on Mother Report GSI,  
SMAT, and OPS Scores Adjusted for SD.....59

Table 2

Mothers' Mean Scores on the GSI, SMAT, and OPS across  
the Four PEI Categories..... 60

Table 3

Univariate F-Tests for PEI Effects on Father Report GSI,  
SMAT, and OPS Scores Adjusted for SD.....63

Table 4

Roy-Bargmann Stepdown F-Tests for Father-Report Measures  
Adjusted for SD with Two Orders of Entry.....65

Table 5

Fathers' Mean Scores on the GSI, SMAT, and OPS  
across the Four PEI Categories.....67

Table 6

Hierarchical Regression of Measures of Maternal Adjustment  
on Mother Report TBP Score..... 75

Table 7

Hierarchical Regression of Measures of Paternal Adjustment  
on Father Report TBP Score.....80

Table 8

Regression of Measures of Maternal Adjustment on Child  
Report PSR Score..... 84

Table 9

Regression of Measures of Paternal Adjustment on Child  
Report PSR Score.....87

Table 10

Correlations Between Measures of Children's Functioning.....88

## TABLES (Continued)

PAGE

### Table L-1

Mean Z-Scores on Aggression and Withdrawal for Children in Each PEI Category.....	169
--	-----

### Table L-2

Percentage of Subjects Included in Preliminary Sample Out of Entire High Risk Sample .....	170
---	-----

### Table M-1

Number of Parents Included and Excluded in Analyses by PEI Category .....	174
--	-----

### Table M-2

Correlations Between Dummy Variables Representing Inclusion Versus Exclusion and Demographic and Questionnaire Measures .....	176
---	-----

### Table N-1

Number of Parents with Adolescents Under the Age of 18 Who Were Included and Excluded from Multiple Regression Analyses .....	179
---	-----

### Table N-2

Correlations Between Inclusion in Multiple Regression Analyses Versus Exclusion and Subject Characteristics for Children Under the Age of 18 Years.....	180
---	-----

### Table O-1

Number of Parents Employed in Analyses of PEI Category Who Were Included and Excluded from Analyses of the CBCL and the PSR.....	183
--	-----

### Table O-2

Correlations Between Inclusion in Analyses of the CBCL and PSR Versus Exclusion and Subject Characteristics for Target Children Employed in Analyses by PEI Category .....	184
--	-----

### Table Q-1

ANOVA Summary Table .....	188
---------------------------	-----

## TABLES (Continued)

	PAGE.
Table R-1	
Age and Duration of Marriage by PEI Category .....	192
Table S-1	
Correlations of Measures of Parental Adjustment with Demographic Characteristics and SD Scores .....	194
Table U-1	
Univariate <u>F</u> Tests for PEI Effects on Measures of Maternal Adjustment with Alternative Covariates .....	200
Table V-1	
Univariate <u>F</u> Tests for PEI Effects on Measures of Paternal Adjustment with Alternative Covariates .....	203
Table W-1	
Univariate <u>F</u> Tests for PEI Effects on Mother Report GSI, SMAT, and OPS Adjusted and Unadjusted Scores in Reduced Sample of Mothers .....	206
Table W-2	
Roy-Bargmann Stepdown <u>F</u> Tests for Mother Report Measures Adjusted for SD with Two Orders of Entry in Reduced Sample of Mothers .....	208
Table W-3	
Mean Scores on the GSI, SMAT, and OPS for the Reduced Sample of Mothers in Each PEI Category .....	209
Table Y-1	
Correlations Among Measures of Maternal Adjustment in Samples of Boys and Girls .....	213
Table Y-2	
Correlations Among Measures of Maternal Adjustment in Full Sample .....	214



# TABLES (Continued)

PAGE

## Table Z-1

Correlations Among Measures of Paternal Adjustment in Samples of Boys and Girls.....	216
---	-----

## Table Z-2

Correlations Among Measures of Paternal Adjustment in Full Sample .....	217
--	-----

## Table AA-1

Stepwise Regression of Demographic Variables and Mother Report SD Score on Mother Report SC Score .....	219
--	-----

## Table BB-1

Hierarchical Regression of Measures of Maternal Adjustment on Mother Report SC Score.....	221
--	-----

## Table CC-1

Stepwise Regression of Demographic Variables and Father Report SD Score on Father Report SC Score.....	223
---	-----

## Table DD-1

Hierarchical Regression of Measures of Paternal Adjustment on Father Report SC Score.....	225
--	-----

## Table EE-1

Stepwise Regression of Demographic Variables and Mother Report SD Score on Mother Report TBP Score .....	227
---	-----

## Table FF-1.

Hierarchical Regression of Measures of Maternal Adjustment and SD Score on Mother Report TBP Score.....	229
--	-----

## Table GG-1

Stepwise Regression of Demographic Variables and Father Report SD Score on Father Report TBP Score.....	231
--	-----

# TABLES (Continued)

	PAGE
Table HH-1	
Hierarchical Regression of Measures of Paternal Adjustment and SD Score on Father Report TBP Score in the Sample of Boys.....	233
Table HH-2	
Hierarchical Regression of Measures of Paternal Adjustment, SD Score, and Occupational Prestige on Father Report TBP Score in the Sample of Girls.....	234
Table HH-3	
Hierarchical Regression of Measures of Paternal Adjustment, SD Score, and Child's Age on Father Report TBP Score in the Combined Sample of Boys and Girls.....	235
Table II-1	
Hierarchical Regression of Measures of Maternal Adjustment on Mother Report TBP Score in Sample With Father Data Available.....	238
Table JJ-1	
Values of $r$ and $Z$ .....	240
Table KK-1	
Stepwise Regression of Demographic Variables and Mother Report SD Score on Child Report PSR Score.....	242
Table LL-1	
Hierarchical Regression of Measures of Maternal Adjustment, SD Score, and Number of Children on Child Report PSR Score in the Combined Sample of Girls and Boys.....	244
Table MM-1	
Stepwise Regression of Demographic Variables and Father Report SD Score on Child Report PSR Score.....	246

## APPENDICES

	PAGE
Appendix A Prorating Procedures and Assessment of Internal Consistency.....	118
Appendix B Interview Questions for Demographic Variables.....	120
Appendix C French Translation of the SD Scale.....	123
Appendix D French Translation of the SCL-90 .....	127
Appendix E French Translation of the SMAT.....	133
Appendix F French Translation of the OPS.....	136
Appendix G French Translation of the Pupil Evaluation Inventory.....	139
Appendix H French Translation of the CBCL.....	144
Appendix I French Translation of the PSR.....	157
Appendix J Letter Sent to Parents.....	160
Appendix K Calculation of Vectors .....	165
Appendix L Representativeness of the Preliminary High Risk Follow-up Sample .....	167
Appendix M Representativeness of the Sample Employed in Analyses by PEI Classification Category.....	172
Appendix N Representativeness of the Sample Employed in Analyses of the CBCL and the PSR.....	177

## APPENDICES

	PAGE
Appendix O Comparisons Between the Samples Employed in Analyses by PEI Category and in Analyses of the CBCL and the PSR.....	181
Appendix P Assumptions of ANOVAs of Demographic Variables and SD Scores .....	185
Appendix Q ANOVA Summary Table for Demographic Variables and SD Scores .....	187
Appendix R Age and Duration of Marriage by PEI Classification Category .....	191
Appendix S Correlations of Measures of Parental Adjustment with Demographic Characteristics and SD Scores .....	193
Appendix T Evaluation of Assumptions of MANOVAs on Measures of Parental Adjustment .....	195
Appendix U MANOVAs on Mother Report Measures with Alternative Covariates .....	198
Appendix V MANOVAs on Father Report Measures with Alternative Covariates .....	201
Appendix W MANOVAs in Reduced Sample of Mothers .....	204
Appendix X Evaluation of Assumptions of Multiple Regression .....	210
Appendix Y Correlations Among Measures of Maternal Adjustment.....	212
Appendix Z Correlations Among Measures of Paternal Adjustment.....	215
Appendix AA Regression of Demographic Variables and Mother Report SD Score on Mother Report SC Score.....	218

## APPENDICES

	PAGE
Appendix BB	
Regression of Measures of Maternal Adjustment on Mother Report SC Score.....	220
Appendix CC	
Regression of Demographic Variables and Father Report SD Score on Father Report SC Score.....	222
Appendix DD	
Regression of Measures of Paternal Adjustment on Father Report SC Score.....	224
Appendix EE	
Regression of Demographic Variables and Mother Report SD Score on Mother Report TBP Score.....	226
Appendix FF	
Regression of Measures of Maternal Adjustment and SD Score on Mother Report TBP Score.....	228
Appendix GG	
Regression of Demographic Variables and Father Report SD Score on Father Report TBP Score.....	230
Appendix HH	
Regression of Measures of Paternal Adjustment, SD Score, and Demographic Characteristics on Father Report TBP Score....	232
Appendix II	
Analyses of Mother Report TBP Score in Sample with Father Report TBP Scores Available.....	236
Appendix JJ	
Fischer's Z-Tests for Differences Between Mothers and Fathers in Correlations Between SD Score and Measures of Adjustment....	239
Appendix KK	
Regression of Demographic Variables and Mother Report SD Score on Child Report PSR Score.....	241
Appendix LL	
Regression of Measures of Maternal Adjustment, SD Score, and Number of Children on Child Report PSR Score in the Combined Sample of Boys and Girls.....	243
Appendix MM	
Regression of Demographic Variables and Father Report SD Score on Child Report PSR Score.....	245

The relationship between marital discord and children's behaviour problems has received increasing attention in recent years. Traditionally, theorists and researchers have emphasized the effects of parent-child relationships and emotional adjustment of parents, especially mothers, on children's psychosocial adjustment. For example, Mahler, Pine and Bergman (1975) have emphasized the importance of adequate mothering in the child's development of a sense of self. Failure on the mother's part to gratify dependency needs in infancy, and to tolerate the emerging independence of the toddler, are viewed as contributing to psychopathology in the child. Researchers employing an individual perspective have typically attempted to correlate children's behaviour problems with psychopathology in parents, using methodology such as clinical interviews (e.g., Jenkins, 1966) and tests such as the MMPI (e.g., Anderson, 1969).

More recently, the emphasis on parents as individuals has been supplemented by a perspective which regards children's behaviour problems in relation to broader aspects of family functioning, such as the marital relationship. Recent developments in family systems theory have contributed to this shift. The basic concepts of family systems theory have been outlined by writers such as Minuchin (1985) and Wachtel and Wachtel (1986). While there is a diversity of approaches to the family, various theorists share a view of the family as a single unit, possessing its own structure and rules for interaction. The interdependence of different individuals or parts of the system is emphasized. Family structure is conceptualized as consisting of subsystems such as spousal, parental, and sibling subsystems. Individual symptoms may reflect failure to maintain appropriate boundaries around each subsystem. For example, if the boundaries around the marital dyad are unclear, a child may be drawn into marital conflict and assume a

role such as that of mediator or scapegoat. Individual symptoms are also believed to serve a function for the system as a whole. For example, a child's behaviour problems may draw attention away from marital conflict, preserving the unity of the family against threats of separation.

Schwarz (1979) has suggested that marital conflict may lead to maladjustment in children by disrupting the child's ability to identify with the same-sex parent. If the marital relationship is conflicted, the child may be pressured to ally with one parent and incur disapproval from the other parent. Allying with the same-sex parent may lead to difficulties in opposite-sex relationships; allying with the opposite-sex parent may impair the development of self-esteem and gender identity; assuming a distance from both parents may result in general disaffiliation from adults and in antisocial behaviour. Schwarz and Getter (1980) tested several hypotheses derived from this model in a sample of university students. The primary hypothesis was that neurotic symptoms would be prominent when high levels of parental conflict were combined with high levels of dominance in the opposite-sex parent. Individuals with this type of family constellation would experience an intense dilemma around whether to ally with the same-sex parent and risk disapproval from an extremely powerful opposite-sex parent, or whether to ally with the more dominant parent at the cost of identification with the same-sex parent. Schwarz and Getter examined the power of the subject's gender, degree of parental conflict, and relative dominance of the mother and father in predicting several kinds of maladjustment. The general pattern of results supported the model. For example, neurotic symptoms were predicted by a triple interaction term reflecting parental conflict and opposite-sex parental dominance. Limitations of this study include the fact that it was based entirely on students' reports of their

own symptoms as well as of family variables, with parental conflict and dominance being assessed retrospectively. However, the results emphasize the importance of parental conflict in the development of maladjustment and its disruptive effects on the child's identification with the same-sex parent.

Several studies suggest a relationship between marital adjustment and parental skills. In a review of the literature, Belsky (1981) concluded that the marital relationship exerts important effects on maternal behaviours such as competence of feeding, as well as the father's involvement with the child. The marital relationship and the degree of emotional support it provides parents may influence the child indirectly by affecting the quality of parenting. In a study of aggression in adolescent boys, Olweus (1980) found that the mother's negativism towards the son was an important predictor of the boy's aggression. The mother's negativism was also significantly correlated with interview measures of the quality of the marital relationship. Although the study did not explore the direction of causality among negativism, marital problems, and aggression, the results are consistent with the hypothesis that marital adjustment influences children in a wide age range by affecting the quality of parenting.

Researchers in the area of behaviour modification with children have become increasingly concerned with the role of the marital relationship in the development and maintenance of childhood psychopathology.

Oltmanns, Broderick, and O'Leary (1977) examined the relationship between marital adjustment measured by the Short Marital Adjustment Test (Locke & Wallace, 1959) and childhood behaviour problems measured by the Behavior Problem Checklist (Quay, 1977). Subjects were 49 intact families seen at a university psychology clinic for treatment of children's



behaviour problems, and 37 families from the community. Parents of clinic-referred children had significantly lower scores on the Short Marital Adjustment Test than parents in the community sample ( $p < .01$ ). Within the clinic sample, marital adjustment scores of both parents were significantly correlated with several Behavior Problem Checklist scales. Conduct Disorder, Inadequacy-Immaturity, and Subcultural Deviance were significantly correlated with the marital adjustment scores of both parents, while Personality Disorder was significantly correlated only with the mother's marital adjustment score.

The literature on stressful life events (e.g., Dohrenwend & Dohrenwend, 1974; Holmes & Rahe, 1967; Sarason, Johnson, & Siegel, 1978) is also consistent with hypotheses regarding detrimental effects of marital discord on children's adjustment. The correlation between stressful life events and physical, as well as psychological, problems in adults is well documented. Studies of the effects of stress on adjustment in children have found that marital discord is a major source of stress. For example, Yamamoto (1979) asked a sample of elementary school children to rate the stressfulness of a number of events. Parental arguments were rated as among the most stressful.

The importance of marital discord has also been emphasized in studies which have found that the effects on children of divorce and separation from parents could be attributable to marital discord. Rutter (1974) summarized several epidemiological studies conducted by his team of researchers. Among children of patients at a psychiatric clinic, separation from the family was associated with increased behavioural deviance. However, when the sample was broken down according to reasons for the separation, the relationship between separation and behavioural problems was found

only in families in which the separation was due either to marital discord or to psychiatric illness. Separations due to vacations or physical illness were not associated with behavioural problems. A relationship between marital discord and child behaviour problems also was evident in a sample of psychiatric patients who did not experience family separations, and in a sample drawn from the general population.

Raschke and Raschke (1979) conducted a study examining the relationship of children's self-concepts to both marital discord and family structure in a sample of intact and single-parent families. The results indicated a relationship between children's self-concepts and marital conflict. Children in intact families, however, did not differ from those in single-parent families. One of the limitations of this study is that it was based entirely on measures reported by the child. In a similar study, however, Long, Forehand, Fauber, and Brody (1987) assessed adjustment in young adolescents through self-reports of competence, teacher ratings, behavioural observations, and academic grades. Consistent with Raschke and Raschke's findings, Long et al. found that most measures of adjustment were related to marital conflict rather than to family structure. In a review of the literature, Hetherington (1979) concluded that conflicted intact families were more detrimental to children's adjustment than divorced families experiencing less conflict. Hetherington discussed individual differences in children's responses to divorce, and regarded marital conflict as a significant variable in explaining these differences.

In summary, a number of theoretical considerations and empirical findings suggest that marital discord is a crucial factor in children's maladjustment. As described above, these include developments in family systems theory; Schwarz's model of marital conflict in terms of children's

identification with the same-sex parent; studies which indicate a relationship between marital discord and parenting; the increasing attention to marital discord by child behaviour therapists; and research on stressful life events which suggests that marital conflict as a stress exerts stronger negative effects than does separation from parents or divorce. In spite of these findings, Emery (1982) concluded in a review of the literature that there are a number of important unresolved issues in this area. According to this author, the issues in need of clarification include the role of parental psychopathology, gender differences in children's responses to marital discord, the effects of overt hostility versus covert discord, and the question of whether children's behaviour problems are more likely to take the form of aggression than withdrawal. Emery also observed that the magnitude of the relationship between marital problems and children's behaviour disorders has not been clearly established, and noted some of the methodological difficulties that might account for this uncertainty. There is also a surprising lack of information regarding the effects of marital discord on aspects of psychosocial adjustment other than children's behaviour problems such as the development of competencies. The present study was prompted by the need to examine these issues.

### Parental Psychopathology

Researchers have examined the relationship between parental psychopathology and behaviour disorders in children through a variety of approaches, including clinical assessment of parents of children in treatment, administration of standardized questionnaires to family members, and studies of offspring of individuals with psychiatric diagnoses. Support for a

relationship between disorders in parents and children has been found consistently in the literature. For example, early studies of patients at child guidance clinics found qualitative similarities between the type of disorder displayed by children and maternal diagnosis (Jenkins, 1966; Britton, 1969). More recently, Stewart, deBlois, and Cummings (1980) conducted a well-controlled study and found a higher frequency of paternal diagnoses of antisocial personality disorder and alcoholism among boys displaying unsocialized aggression than among hyperactive boys who did not behave aggressively.

In an early study, Anderson (1969) administered the MMPI to parents of boys drawn from psychiatric clinics and schools. Anderson found that fathers of aggressive boys were themselves aggressive, while fathers of neurotic boys obtained relatively high scores on a measure of defensiveness. Differences among mothers were less striking, suggesting that identification with the same-sex parent may be involved in the development of behaviour disorders in boys. In a more recent study employing the MMPI, Archer, Stolberg, Gordon, and Goldman (1986) found a larger number of significant correlations between scale scores of mothers and adolescents of both genders than between scores of fathers and adolescents. In addition, results of discriminant functions analysis indicated that maternal MMPI scores were good predictors of the adolescent's status as either an inpatient or outpatient. Thus, there are discrepancies between studies as to whether psychopathology in mothers or fathers is a more powerful determinant of behaviour disorder in offspring. Correlational studies are also unable to establish the direction of causality in the relationship between disorders in parents and children, since parental maladjustment may be due to the stress of having a disturbed child. However, there is consensus among investiga-

tors that there is a relationship between psychopathology in parents and children.

An additional line of research involves assessment of children whose parents have been diagnosed as having a particular psychiatric disorder. Beardslee, Bemporad, Keller, and Klerman (1983) reviewed the literature on children of parents with affective disorders, and concluded that parental affective disorder increased the risk of maladjustment in children.

Beardslee and associates suggested that the research to date is insufficient to specify the degree of risk associated with affective disorder in parents, or to identify mechanisms of transmission. Etiological mechanisms may include genetic factors as well as environmental factors such as impaired parenting skills or marital distress:

Numerous studies have examined the adjustment of children of schizophrenics. In a review of the literature, Gottesman (1978) concluded that the incidence rate for children of one schizophrenic parent is approximately 10%, and for children of two schizophrenic parents, approximately 30%. Both genetic and environmental factors are generally considered to contribute to these indices of intergenerational transmission of schizophrenia (Kidd, 1978). Although the possibility of reciprocal influences between disorders in parents and children cannot be ruled out, studies examining parents with severe disorders suggest that parental psychopathology leads to disturbances in children.

There are difficulties in distinguishing the effects of parental psychopathology from those of marital discord. It is widely recognized that the adjustment of the individual and marital adjustment are not independent. Marital distress may precipitate the development of symptoms in an individual, while individual psychopathology may strain a marital relationship.

Since both individual and marital adjustment in parents are related to children's behaviour disorders, it is difficult to assess the relative contributions of these two variables.

Several studies have examined the inter-relationships among the variables parental psychopathology, marital distress, and children's behaviour problems. Johnson and Lobitz (1974) found that deviant behaviour in a clinic sample of boys assessed through observation was significantly correlated with fathers' reports of marital adjustment ( $r = -.52, p < .05$ ), as well as showing trends towards significant correlations with nine father-report MMPI scales. Marital adjustment reported by fathers showed either trends or significant correlations with all 13 MMPI scales, with  $r$ s ranging from  $-.35$  to  $-.69$ . A similar pattern occurred for mothers, although the correlation coefficients were of a lower magnitude. This study emphasized the importance of both parental psychopathology and marital distress, especially in fathers, but did not permit separation of the effects of these two variables on the psychosocial adjustment of boys.

Billings and Moos (1983) examined the relationship between disturbances in children assessed through parent reports and several aspects of the family environment, including parental depression, support available to parents, and stress. There were numerous significant correlations among measures of children's family environment. Billings and Moos were unable to ascertain, however, whether parental depression resulted in a maladaptive family environment, or whether an unsupportive family environment maintained the parental depression. Nevertheless, their results emphasized the reciprocal influence of individual psychopathology and family relationships. When parental depression was statistically controlled, parental stress and support showed small but statistically significant relationships to de-

pression in children. Billings and Moos suggested that low stress and high support function as protective factors in the relationship between depression in parents and disturbances in children. While this study examined family relationships in general rather than the spousal relationship, it raises the question of whether a similar pattern of results would occur using specific measures of marital discord.

In a large-sample epidemiological study, Rutter (1971) examined the relationship of antisocial behaviour in children to parental personality disorder and marital discord. Antisocial behaviour in children was more frequent in marriages rated as poor or very poor than in those rated as good or fair. In addition, parental personality disorder was associated with antisocial behaviour in children only among families in which marriages were rated as poor or very poor. Rutter concluded that behaviour problems in children which have traditionally been attributed to parental psychopathology may be explained in part by marital discord.

Emery, Weintraub, and Neale (1982) examined the relationship of children's behaviour problems as rated by teachers and by peers to parental psychopathology and marital discord. Emery et al. found that when parents were diagnosed as having an affective disorder, the relationship between parental psychopathology and children's behaviour problems was attributable to the concomitant effect of marital discord. In contrast, when parents were diagnosed as schizophrenic, the effects of parental psychopathology on children's behaviour problems were independent of marital discord. In his review of the literature, Emery (1982) concluded that the effects of parental psychopathology on children's behaviour problems might be due in part to the concomitant effects of marital discord, although further research is needed to clarify the effects of these two variables and their interactions.

In summary, the literature suggests that parental psychopathology, marital discord, children's behaviour problems, and other features of the family environment are highly inter-related. Explanations of child behaviour problems in terms of parental psychology are more traditional and parsimonious, since they do not invoke more complex constructs pertaining to family relationships. Although several studies suggest that the effects of marital discord are not attributable to parental psychopathology, these studies have certain limitations. As described earlier, Billings and Moos (1983) found that when parental depression was statistically controlled, social support and stress were significantly related to children's behaviour problems. However, the correlations were modest. The studies by Emery et al. (1982) and by Rutter (1971) suggest that marital discord may explain some of the effects previously attributed to parental psychopathology alone. However, these studies have been limited to specific diagnostic groups. Further research is necessary in order to determine the generality of these results. It is not clear whether marital discord would contribute to children's behaviour problems if general level of parental psychopathology were taken into account.

The question of an interaction between parental psychopathology and marital discord also requires further research. A number of researchers have hypothesized that positive features of the family environment may protect children from the effects of disturbed aspects of the family environment. Rutter (1974) suggested that a positive relationship with one parent might counteract the effects of marital discord. Perhaps parents with low levels of psychopathology are more likely to provide compensatory support for their children. It would be useful, therefore, to assess on the one hand, whether individual healthy adjustment in parents counteracts the effects of



marital discord, and, on the other hand, whether marital adjustment protects against the effects of parental psychopathology. It would also be useful to determine whether the effects of these two variables are additive or multiplicative.

### Hypotheses Proposed by Rutter and Associates

A British group of researchers led by Rutter conducted a series of epidemiological studies pertaining to adjustment in children. Rutter, Cox, Tupling, Berger, and Yule (1975) described their research strategy. All 10-year-old school children living on the Isle of Wight, and those residing in an inner London borough were screened by means of teacher questionnaires that assessed deviant behaviours. Two groups of approximately 100 children were selected from each area for further intensive study. One group consisted of teacher-rated deviant children. The other comprised a randomly selected control group. Mothers participated in a structured interview assessing family relationships, lifestyle factors, and symptoms of individual family members. The data analyses were geared towards identifying correlates of a wide range of childhood disorders.

Based on the results of several epidemiological studies, the British group of researchers proposed several hypotheses regarding the effects of marital discord. Three hypotheses are of particular interest. The first was suggested by Rutter in 1971, when he found a relationship between marital maladjustment and behaviour problems in boys but not in girls. Based on these results, Rutter posited that boys are more susceptible to the effects of marital discord than girls, and that this parallels a tendency for boys to show greater vulnerability to various forms of psychosocial and biological

stress. The second hypothesis was proposed by Rutter in 1974, having concluded from epidemiological data that marital discord is related to conduct disorders in children, but not emotional or neurotic problems. Thus, children may display aggression, rather than withdrawal, in response to parental discord. The third hypothesis pertained to whether there are particular parameters of marital discord which are detrimental to children's development. Rutter, Yule, Quinton, Rowlands, Yule, and Berger (1974) reviewed the results of epidemiological research examining the relationship between disturbance in children and two dimensions of marital discord. One dimension reflected overtly expressed discord and hostility, while the other measured apathy and indifference. These results led to the hypothesis that overtly expressed conflict was more detrimental to children's functioning than covert discord.

A number of studies have tested Rutter's hypothesis concerning gender differences in response to parental discord. Block, Block, and Morrison (1981) examined the relationship between measures of parental disagreement regarding child rearing practices obtained when the participating children were three years old and measures of ego control and resiliency obtained when these children were ages four, five and seven years. Subjects were 100 children selected from a nursery school. Ego control was defined as the ability to control impulses and delay gratification, while ego resiliency referred to the ability to adapt to change. The measure of parental disagreement predicted scores on a Q-sort measure of the home environment completed by observers two years later, and predicted parental divorce 10 years later. Among boys, parental agreement was positively correlated with IQ, ego control, and ego resiliency. Among girls, parental agreement was not related to IQ or ego resiliency, and was negatively correlated with

ego control. These gender differences were most apparent in younger children, and decreased by the age of seven. Block et al. interpreted these results as evidence of greater vulnerability to parental disagreement among young boys than girls, and offered several possible explanations. For example, the relative salience of mothers and fathers may differ for boys and girls. For boys, the mother is salient due to her nurturing role, while there is also a strong bond with the father. For girls, the stronger bond is with the mother. Therefore, girls may ally themselves with the mother in the face of marital discord, while boys may experience a more intense conflict of loyalties. The decrease in gender differences in vulnerability to marital discord among older children may be due to the increasing salience of fathers for girls. An alternative interpretation is that boys may be inherently more distressed than girls by aversive uncontrollable events such as parental disagreements.

A study by Porter and O'Leary (1980) also pertains to the hypothesis of gender differences in response to marital discord. Porter and O'Leary administered the Short Marital Adjustment Test as a measure of general marital adjustment, the O'Leary-Porter Scale as a measure of how frequently a child observes marital hostility, and the Behaviour Problem Checklist as a measure of children's behaviour problems, to the parents of 64 clinic-referred children between the ages of five and sixteen years. The O'Leary-Porter Scale was significantly correlated with several scales of the Behaviour Problem Checklist in the sample of boys but not in the sample of girls. The Short Marital Adjustment Test was not significantly correlated with behaviour problems either in boys or in girls. These results were consistent with the hypothesis of greater vulnerability among boys than girls to overtly expressed marital conflict, but did not indicate a relationship

between general marital adjustment and children's behaviour problems.

Emery and O'Leary (1982) attempted to replicate the results of the Porter and O'Leary study in a clinic sample of 25 boys and 25 girls between the ages of eight and seventeen years. Again, parents completed the Short Marital Adjustment Test, the O'Leary-Porter Scale, and the Behaviour Problem Checklist. In contrast to the pattern found by Porter and O'Leary, Emery and O'Leary did not find significant correlations between the O'Leary-Porter Scale and the Behaviour Problem Checklist scales. However, the Short Marital Adjustment Test was significantly correlated with Conduct Disorder in boys. Emery and O'Leary hypothesized that the gender difference might be due to differential exposure to aggressive parental models and differential experience of nonacceptance stemming from marital discord among boys and girls. Children completed the Children's Perception Questionnaire, a measure of perception of marital discord and feelings of nonacceptance. The results indicated that neither of these two factors accounted for the gender difference observed in response to marital discord.

In a review of the literature, Emery (1982) pointed out that the studies by Porter and O'Leary (1980) and by Emery and O'Leary (1982) were undermined by several methodological limitations. First, there are difficulties when the same individual assesses both marital adjustment and children's functioning. Correlations might be inflated by the influence of a social desirability response set. Second, correlations between marital distress and children's behaviour problems fluctuate according to the nature of the sample, with higher correlations generally occurring in clinic samples. In a subsequent study employing a nonclinic sample, Emery and O'Leary (1984) found only modest correlations in the .20 range between marital

conflict and children's behaviour problems. In contrast, Emery and O'Leary (1982) reported a correlation of .69 between mother report of marital adjustment and a measure of conduct problems in the clinic sample of boys. Finally, there are limitations on the reliability of findings when sample size is small.

An epidemiological study by Whitehead (1979) tested the hypothesis of gender differences in response to marital discord. This study examined approximately 2,700 first-born seven-year-olds. Domestic tension was rated as either present or absent by a health visitor following an interview. Various aspects of the children's functioning were assessed through parent and teacher questionnaires, ratings of maladjustment by school physicians, and attendance at child guidance clinics. Maternal reports of frequent fights with other children, attendance at a child guidance clinic, and a teacher rating of being unsettled after three months in school were significantly associated with domestic tension. Teacher ratings of hostility towards children and adults, and maternal ratings of sadness and destructiveness of belongings were significantly associated with marital discord in boys but not in girls. Maternal descriptions of a child as highly strung or sensitive, and the school physicians' ratings of emotional maladjustment were associated with domestic tension in families of girls but not boys. The pattern of results obtained from teacher ratings and maternal reports indicated that girls confine their display of aggression to the home. Whitehead concluded that marital discord leads to emotional disturbance in both boys and girls. The findings, however, are undermined by the uncertain reliability and validity of the measures.

Johnson and O'Leary (1984) speculated that gender differences in response to marital discord may be due to clinic sample characteristics.

Boys are referred for treatment of aggressive behaviour more frequently than girls (American Psychiatric Association, 1980). Reasons for referral may be more similar among boys than among girls. Greater heterogeneity among clinic-referred girls might therefore obscure the relationship between marital discord and behaviour problems. Johnson and O'Leary (1984; 1987) tested the hypothesis that aggression in girls is related to parental aggression. Forty-two girls from the community were assigned either to a conduct problem group or to a control group according to maternal report on the Behaviour Problem Checklist. Mothers and fathers completed measures of marital adjustment, overt marital hostility displayed in front of the daughter, an inventory of parental behaviours, and a measure of general aggressive style. The girls' perceptions of their parents' marriages were also assessed. Johnson and O'Leary found that the measures of aggression and social competence in girls were related to several measures of aggression and marital adjustment in parents. Aggression in girls was more closely related to maternal aggression than paternal aggression. Johnson and O'Leary interpreted these results as support for a modeling hypothesis of aggressive behaviour. The tendency for children to imitate a same-sex model is consistent with findings of a stronger relationship between behaviours of mothers and girls than between the behaviours of fathers and girls. Although this study did not directly assess gender differences in children's responses to marital discord, it suggests that girls are influenced by marital problems, and that imitation of an aggressive same-sex parent may be one of the mechanisms.

Rutter's hypothesis that boys are more vulnerable to the effects of marital discord than girls received support in several of the above studies. Block et al. (1981) found more adverse effects in young boys, while Porter

and O'Leary (1980) and Emery and O'Leary (1982) found more adverse effects in older boys. The basic hypothesis of gender differences, however, was not supported by Whitehead's (1979) epidemiological study. In addition, Johnson and O'Leary (1984; 1987) found that aggression in girls was related to aggression displayed by parents. These authors suggested that gender differences among clinic-referred children might be due to sampling artifacts. Emery (1982) concluded that although research literature provides stronger support for a relationship between marital discord and behaviour problems in boys than in girls, the effects on girls may be expressed differently than in boys. While boys may develop more readily observable aggressive behaviours, girls may become anxious, excessively well-behaved, or develop difficulties at a later age.

The studies described above bear on Rutter's second major hypothesis that marital discord is more likely to produce aggression than withdrawal in children. The measure of ego control obtained by Block et al. (1981) reflected control over aggressive impulses. The correlation between parental agreement and ego control in boys was consistent with Rutter's findings of a relationship between marital discord and aggression. The study by Porter and O'Leary (1980) however, included not only a measure of childhood aggression, but also a measure of childhood withdrawal.

Among boys aged 10 years and younger, the O'Leary-Porter Scale was significantly correlated with Conduct Disorder and with Total Pathology. Among boys aged 11 years and older, the O'Leary-Porter Scale was significantly correlated with Socialized Delinquency, Personality Disorder, Inadequacy-Immaturity, and Total Pathology. Thus, response to marital discord appeared to be a function of age. Boys aged 10 years and younger responded primarily with aggressive behaviour, while boys aged 11 years and

older developed behaviour problems reflecting both the dimensions of aggression and withdrawal.

The Emery and O'Leary (1982) study also included measures of childhood aggression and withdrawal. Both mother and father report measures yielded significant correlations between marital maladjustment and Conduct Disorder in boys. The father report measure of marital maladjustment also correlated with father report of Delinquency and Immaturity. This study provided strong support for a relationship between marital maladjustment and aggression in boys, and less consistent evidence of a relationship between marital problems and withdrawal.

As described earlier, Whitehead (1979) obtained measures of domestic tension and a variety of children's behaviour problems such as fighting, destructiveness of belongings, sadness, and sensitivity in the context of an epidemiological study. Whitehead concluded that the effects of marital discord on children include both aggression and withdrawal.

The above studies provide qualified support for the hypothesis that marital problems result in childhood aggression rather than withdrawal. The studies by Block et al. (1981) and Porter and O'Leary (1980) found that marital problems were related to aggression but not withdrawal among younger boys. Porter and O'Leary found that marital hostility was related to a wide range of both aggressive and withdrawn behaviours. Emery and O'Leary (1982) found more consistent support for a relationship between marital discord and aggression than withdrawal. Whitehead (1979) concluded that both aggression and withdrawal are related to domestic tension. In his review of the literature, Emery (1982) concluded that support for a relationship between marital discord and aggression has been found with greater consistency than support for a relationship between marital discord



and withdrawal.

Rutter's third hypothesis concerning the issue of which parameters of marital discord are most detrimental to children's adjustment has received relatively little attention in the research literature. The studies by Porter and O'Leary (1980) and Emery and O'Leary (1982), however, included both a measure of general marital adjustment and a measure of overt hostility expressed in front of the child. Results from these two studies are contradictory. Porter and O'Leary found that behaviour problems were related to overtly expressed marital hostility but not to general marital maladjustment. Emery and O'Leary found the opposite pattern.

To summarize, Rutter's epidemiological data indicated that (a) boys are more vulnerable to the effects of marital discord than girls; (b) marital discord is more likely to result in aggression than withdrawal; and (c) overtly expressed marital hostility is more detrimental than covert discord. Although subsequent studies have provided some support for each of these hypotheses, there are inconsistencies between studies. For example, Whitehead (1979) found that marital discord led to emotional disturbance in both boys and girls, and that the behavioural effects of marital discord on offspring included both aggression and withdrawal. Emery and O'Leary (1982) found that behaviour problems were related to general marital maladjustment but not to overt marital hostility. Some of the inconsistencies between studies may be due to methodological limitations. The present study was prompted by the need for further research to test the three hypotheses proposed by Rutter.

### Rationale for the Present Study

The purpose of the present study was to examine the relationship of parental psychopathology, marital adjustment and overt hostility to adjustment in children. Although the three dimensions of parental functioning were expected to be inter-related, they differ with respect to their breadth and the importance traditionally attached to them by researchers examining family influences on child development. Parental psychopathology has traditionally been regarded as a major influence in children's development, while marital adjustment and hostility have been associated with more recent theoretical perspectives of the family as a system. These three dimensions also differ with respect to breadth. Psychopathology is a general construct that refers to functioning and inner experience in a variety of contexts. Marital adjustment is somewhat more specific, reflecting functioning within the confines of the marital dyad. Overt expression of marital hostility is the most specific, since it refers to a particular kind of behaviour that is directed only towards the spouse. Measures of these three constructs possess an implicit order and were expected to be inter-related. The questions that were of interest to us, therefore, were whether effects of marital discord were due to parental psychopathology, and whether effects of overt marital hostility were due either to parental psychopathology or to marital maladjustment.

The present study also examined gender differences in children's responses to marital maladjustment and hostility. In line with the general tenor of the research literature, it was hypothesized that the relationship between marital adjustment and children's adjustment would be stronger among boys than among girls. There are also questions regarding the rela-

tive importance of psychopathology in mothers and fathers. It is possible that the adjustment of the same-sex parent is more important, since that parent functions as a more relevant role model. However, it may also be argued that adjustment in mothers is more important for both boys and girls, since mothers frequently act as the primary caretaker. Thus, no predictions were made in the present study regarding the relative effects of maternal and paternal psychopathology on offspring. Also in line with Rutter's formulations, the study addressed the question of whether aggression and withdrawal in children were differentially related to adjustment in parents.

In examining the relationship of individual and marital adjustment in parents to adjustment in children, researchers have traditionally relied on children's behaviour problems as an indicator of adjustment. More recent studies, however, have employed multiple measures of children's adjustment such as parent and teacher ratings (Emery, Weintraub, & Neale, 1982), and measures of social competence (Johnson & O'Leary, 1984; 1987). The present study sampled a range of areas of functioning which are believed to be relevant both to childhood adjustment and to later psychopathology. Four aspects of children's adjustment were examined: (a) aggressive and withdrawn behaviours, (b) overall extent of behaviour problems, (c) social competence, and (d) the experience of social support from family.

### Rationale for the Selection of Variables

Traditionally, childhood behaviour disorders have been assigned to a variety of clinically derived diagnostic categories of uncertain reliability and validity (Quay, 1979). More recent factor analytic studies, however, have established aggression and withdrawal as the two meaningful broad-

band factors of childhood deviance (Achenbach & Edelbrock, 1978).

Childhood aggression and withdrawal are likely to be the sequelae of marital discord - as discussed earlier - and have implications for adult development. Numerous studies indicate the longterm stability of aggression (Olweus, 1979). Evidence regarding the longterm stability of withdrawal has been less consistent. In a review of the literature, Robins (1979) concluded that conduct disorder in childhood predicts adult psychopathology, while withdrawal is not a predictor of later difficulties. In a longitudinal study conducted by Fischer, Rolf, Hasazi, and Cummings (1984), a large sample of preschool children was assessed. Parent reports of aggression and withdrawal were obtained for a follow-up sample of approximately 500 children when subjects were in high school. Consistent with Robins' conclusion, the results indicated greater stability in aggressive behaviour than in withdrawn behaviour. Reznick et al. (1986), however, found that indicators of withdrawal persisted from the age of 2 years to the age of 5 years. An understanding of childhood aggression and withdrawal may therefore have a bearing on our understanding of the etiology and precursors of adult psychopathology.

The present study employed measures of aggression and withdrawal that were available from the Concordia Longitudinal High Risk Project, which has been described in detail by Ledingham (1981) and by Schwartzman, Ledingham, and Serbin (1985). The purpose of the project was to identify childhood precursors of schizophrenia. A pre-schizophrenic pattern of frequent aggression and frequent withdrawal is commonly found in retrospective reports (Michael, Morris, & Soroker, 1957). In view of the limitations of retrospective studies, the Concordia researchers designed a prospective study to evaluate the predictability of schizophrenia in adults

from childhood behaviour patterns of aggression and withdrawal. A peer nominations sociometric instrument, the Pupil Evaluation Inventory (Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976), was administered to Francophone students in Grades 1, 4, and 7. Children who displayed high levels of aggression, withdrawal, and a combination of aggression and withdrawal were identified in the context of an extreme groups design. A Control group displaying neither aggression nor withdrawal was also included. Thus, the design included four groups: (a) the Aggressive group, (b) the Withdrawn group, (c) the Aggressive-Withdrawn group, and (d) the Control group. Methodological strengths of this design include the use of a large non-clinic sample, the application of a peer nominations sociometric technique, and the utilization of age- and gender-specific norms for aggression and withdrawal. Also, the screening of a Francophone population for aggression and withdrawal assured the project a relatively low rate of subject attrition because of the geographic stability of this population. There was however, a time lapse ranging from five to seven years between the initial peer assessment procedure, which was conducted in 1977, and follow-up family testing, which began in 1983. Most of the measures employed in the present study were administered during the period of follow-up testing. The effect of this time lapse would be to bias findings regarding the relationship of aggression and withdrawal to other aspects of adjustment in a conservative direction.

A three-year follow-up of academic performance examined the proportion of subjects in each group who had continued in a regular academic program, who had been placed in a special class, and who had failed a grade (Ledingham & Schwartzman, 1984). The general pattern of results indicated that subjects showing either aggression or a combination of ag-

gression and withdrawal experienced academic problems more frequently than Withdrawn or Control subjects. A seven-year follow-up of medical records indicated that Aggressive children were more likely to be seen for psychiatric problems than children in the other three groups (Moskowitz & Schwartzman, 1987). Thus, peer-identified patterns of aggression, withdrawal, and the combination of aggression and withdrawal in children were predictive of academic performance and contact with psychiatric services in adolescents.

Schwartzman (1987a) compared the four groups of children with respect to parent reports of physical and emotional problems, such as substance abuse and psychiatric hospitalization, in family members. The results indicated a higher prevalence of physical and psychiatric problems in parents of children in the three socially deviant groups than in parents of Control children. Beaudet and Schwartzman (1987) compared the four groups with respect to expressions of a negative, critical attitude by parents assessed through speech samples. Children in the Aggressive, Withdrawn, and Aggressive-Withdrawn groups were criticized more frequently by mothers than Control children. Of the three socially deviant groups, Aggressive-Withdrawn children were criticized most frequently by mothers. Criticism was related to psychopathology, lack of social support, and marital distress in parents. This pattern of results raises the question of whether the four groups of parents would also differ in personal adjustment, marital adjustment, and overt expression of marital hostility.

Since marital distress has been found to correlate with both aggression and withdrawal, (e.g., Whitehead, 1979) it was hypothesized that parents of children displaying aggression, withdrawal, or the combination of aggression and withdrawal would experience greater marital maladjustment

than symptom-free children. However, the effects of marital unhappiness might depend upon the degree of overt hostility displayed in front of the child. A modeling hypothesis suggests that aggressive and aggressive-withdrawn children would be exposed to higher levels of overt quarreling between parents than withdrawn children. Parents of aggressive and aggressive-withdrawn children might express conflict overtly in front of children, thus modeling aggressive behaviour. Parents of withdrawn children might deal with marital problems through avoidance, inhibiting their own self-expression as well as the child's. Thus, parents of withdrawn children would be expected to report marital unhappiness but little overt hostility. Parents of aggressive and aggressive-withdrawn children would be expected to report both unhappy marriages and overt quarreling.

Consistent with Beaudet and Schwartzman's (1987) finding that mothers of aggressive-withdrawn children were more critical than mothers of children in the other three groups, parents of aggressive-withdrawn children were expected to report the highest levels of marital distress and overt marital conflict. This prediction was also based on the hypothesis that the aggressive-withdrawn behaviour pattern is a precursor of schizophrenia. Families of schizophrenics have been described as more conflicted than families of patients with other disorders (Doane, 1978). High levels of marital conflict in families of aggressive-withdrawn children would be expected either if marital conflict contributes to pre-schizophrenic symptoms or if it occurs in response to prodromal signs.

The four groups were also compared with respect to parental psychopathology. Group differences in parental psychopathology were expected to correspond to group differences in marital adjustment and overt expression of marital hostility. Thus, parents of aggressive-withdrawn children

were expected to report the poorest levels of personal adjustment, followed by parents of aggressive children, and then parents of withdrawn children. Control parents were expected to show the best adjustment.

The present study also included a general measure of children's behavior problems. Armentrout (1971) examined the relationship of parental child-rearing attitudes to parent ratings of aggression, withdrawal, and a total score reflecting both dimensions in a sample of elementary school children. Armentrout found that all three indices of maladjustment in children were related to a parental attitude of rejection. Only aggression was related to a parental attitude of control. Aggression and withdrawal were moderately correlated, with  $r$ s ranging from .21 to .54. Armentrout suggested that there is considerable overlap between these two dimensions, which may be subcategories of a more general factor of maladjustment. We therefore supplemented our measures of aggression and withdrawal with a global index of behaviour problems in children.

In addition to studying children's behaviour problems, researchers are placing increased emphasis on understanding children's strengths. Interest in this area has developed in part from questions regarding factors such as competence and social support which may protect individuals at risk for severe psychopathology. For example, it is widely recognized by clinicians that although children of psychotic parents frequently display behaviour problems, some of these children develop high levels of competence. Kauffman, Grunebaum, Cohler, and Garner (1979) located a group of "superkids," who displayed unusual levels of talent and creativity in spite of maternal psychosis. Kauffman et al. suggested that these competent children had mothers who were able to provide a supportive relationship in spite of their illness, and also experienced positive relationships with other



adults and peers. Childhood competence is a predictor of adult functioning. For example, in a follow-back study examining the school records of adult psychiatric patients, Lewine, Watt, Prentky, and Fryer (1980) found lower childhood social competence among schizophrenics than among other diagnostic groups. Childhood competence also appears to be related to childhood behaviour problems. Blechman, McEnroe, Carella, and Audette (1986) found that children who were low on both academic and social competence were viewed by peers as being more depressed than their more competent classmates. Although some studies of the relationship between children's adjustment and family environment have included measures of children's social competence (e.g., Johnson & O'Leary, 1984), this aspect of children's adjustment has been relatively neglected. Since competence may serve as a protective factor against the development of behaviour problems and appears to be related both to difficulties in childhood and to the later development of adult psychopathology, it appeared useful in designing the study to assess the relationship between children's competence and family environment.

Social support has also received increasing attention as a correlate of both physical and mental health. Turner (1981) presented data from four studies employing samples of new mothers, mothers with deficient parenting skills, adults with hearing loss, and psychiatric patients. Results provided consistent support for a relationship between social support and well-being, especially for individuals undergoing stress. Turner, Frankel, and Levine (1983) emphasized the distinction between objective measures that assess the availability of social support resources and measures dealing with the subjective experience of quality of social support. In studies of the relationship between family environment and children's behaviour prob-

lems, assessment of children's experiences of family support may provide useful information. Emery and O'Leary (1982) have discussed the hypothesis that "loss of love" may function as a mediating variable between marital conflict and children's behaviour problems. Emery and O'Leary were primarily interested in testing whether differential experiences of loss of love might explain gender differences in children's responses to marital discord. Although the hypothesis that gender differences are due to a greater sense of nonacceptance among boys was not supported, Emery and O'Leary suggested that further research on children's experiences of nonacceptance might provide additional information regarding the mechanisms linking marital discord and behaviour problems in children.

The measures of behaviour problems and social competence employed in the present study were based on parent reports. Although parents are in the unique position of knowing their children intimately and of observing behaviours in the home, their reports may be biased by factors such as their own individual or marital difficulties, and by uncertainty regarding developmental norms. Studies examining the validity of parental perceptions have yielded contradictory results. In a sample of 22 clinic-referred children, Griest, Wells, and Forehand (1979) found that maternal ratings of children were predicted by maternal depression, but not by the children's actual behaviours as assessed through a home observation procedure. In contrast, Thompson and Bernal (1982) found that children's behaviours significantly predicted parental perceptions in a sample of 28 children referred to a clinic for aggressive behaviour. Negative behaviour towards the child, degree of concern about the child, and marital satisfaction, were the variables considered as potential sources of parental bias, and were therefore also assessed. These factors, however, were found to contribute

little to the prediction of parental perceptions. Schaughency and Lahey (1985) examined the relationship of parent ratings of children's externalizing behaviours to teacher ratings of children's behaviours and self-report measures of parental depression and marital adjustment. The sample consisted of 61 children referred to a psychology clinic. Maternal perceptions of children were best predicted by teacher ratings. Maternal depression produced a slight increase in the predictability of maternal perceptions, while marital distress produced no increment in predictability. Paternal ratings of the child were related to maternal ratings, but not to the other measures. Schaughency and Lahey suggested that maternal ratings of children's behaviours were fairly accurate due to their correspondence with teacher ratings. However, fathers' ratings were less accurate, possibly as a result of spending less time with children. Taken together, these studies suggest that parental perceptions are influenced both by the child's behaviour and by the parent's distress. It therefore appears important to supplement parent-report measures with alternative sources of assessing children's functioning.

As described earlier, the measures of aggression and withdrawal were obtained through peer nominations. Classmates may serve as valuable informants of children's psychosocial adjustment. Cowen, Pederson, Bagbigian, Izzo, and Trost (1973) conducted a large-sample longitudinal study in which Grade 3 children were assessed on a wide range of measures obtained through interviews with mothers, reports by teachers, classroom observation, and achievement tests. Also included was the Class Play, a sociometric procedure developed by Bower (cited in Cowen et al., 1973), that has children nominate their peers for positive and negative roles in a hypothetical class play. Subsequent listing of the child in the Psychiatric

Registry was best predicted by peer nominations for Class Play negative roles such as "a mean, cruel boss." Thus, the predictive validity of peer nominations appeared superior to that of more traditional measures. Additional advantages of peer nominations have been noted by Weintraub, Prinz, and Neale (1978). By their nature, peer evaluations make use of multiple observers who are familiar with the child. Peer ratings show stability over time and are unaffected by the gender of raters. In addition, peer ratings minimize the effects of socially desirable responses. Weintraub et al. concluded that validity has been demonstrated in studies which compared peer ratings to measures obtained from parents, teachers, and clinicians, as well as behavioural observations. Ledingham, Younger, Schwartzman, and Bergeron (1982) found high correlations in the .70 range between teacher and peer reports of aggression. Moderate correlations in the .50 range were found between teacher and peer reports of withdrawal and likability. Thus, peers may be important informants in studies of the relationship between family environment and children's functioning.

The present study employed a self-report measure to assess children's experiences of social support from the family. Self-report measures of children's adjustment are rarely employed in the literature, since they show poor agreement with reports by other rater sources. Ledingham et al. (1982) found that self-reports of aggression, withdrawal and likability were negligibly correlated with ratings by teachers and by peers. Kazdin, Esveldt-Dawson, Unis, and Rancurello (1983) examined correlations between children's symptoms reported by mothers, fathers, and children in a sample of 120 children hospitalized for complaints such as depression and aggressive behaviour. Correlations between mother and father reports of a variety of symptoms were in the .70 range. In contrast, correlations be-

tween parent reports of symptoms and children's self-reports were in the .30 range. Kazdin et al. suggested, however, that the discrepancies between reports from parents and children did not invalidate the use of self-report measures. Although parents may be in a better position to assess observable behaviour, children may be better at reporting their subjective experiences, and are the appropriate informants for this purpose. In view of the subjective nature of the experience of social support, a self-report measure was selected to assess this variable.

Both self-reports of adjustment and parent reports of their children's adjustment are influenced by social desirability response set (Robinson & Anderson, 1983). Since the present study included reports of adjustment by both parents and children, measures of social desirability response set were obtained from both parents and children. In view of the relationship between adjustment and demographic variables such as socioeconomic status (Dohrenwend & Dohrenwend, 1969), demographic characteristics were also assessed. The influence of social desirability response set and demographic characteristics on relationships between indices of adjustment was evaluated.

### Summary of Hypotheses

In summary, the purpose of the present study was to address: (a) the hypothesis that individual parental psychopathology is related to children's adjustment; (b) the hypothesis that marital adjustment is related to children's adjustment when individual parental psychopathology is taken into account; (c) the hypothesis that overt marital hostility is related to children's adjustment when both individual parental psychopathology and

marital adjustment are taken into account; (d) the hypothesis that boys are more vulnerable to marital discord than girls; (e) the question of whether the adjustment of boys and girls is more highly correlated with maternal or paternal psychopathology; (f) the question of whether marital discord is more likely to result in aggression or withdrawal; and (g) the question of whether social support functions as a mediator of the relationship between family environment and children's adjustment. These issues were examined with respect to four aspects of children's adjustment: (a) aggression and withdrawal; (b) social competence; (c) extent of behaviour problems; and (d) the extent of social support provided by the family. The question of whether marital discord is more likely to result in aggression or withdrawal was tested only with respect to peer nominations of these two dimensions. Different patterns of marital distress were expected to occur in each group. Parents of aggressive-withdrawn children were expected to report the highest levels of both marital unhappiness and overt hostility; parents of aggressive children were expected to report higher levels of both marital unhappiness and hostility than parents of control children; and parents of withdrawn children were expected to report higher levels of marital unhappiness but not of overt hostility than control parents.

## METHOD

### Subjects

Subjects were 180 families selected from a preliminary follow-up sample of 296 Francophone families tested by the Concordia Longitudinal High Risk Project. Subjects were selected according to the following criteria:

1. Parents were either married or cohabiting for seven or more years.
2. Data relevant to the present study were available for the parents who had participated in a home interview.
3. Mothers alone as informants were included if the data they provided were sufficiently complete. Fathers as informants were included if comparable information was available from their spouses.

The inclusion criteria were applied separately for each of two sets of statistical analyses: (a) analyses of the groupings derived from peer nominations, and (b) analyses of children's behaviour problems, competencies, and social support. A total of 180 mothers met the criteria for inclusion in the first set of analyses. Target adolescents ranged in age from 12 to 21 years, ( $M = 15.54$ ,  $SD = 2.20$ ,  $N = 180$ ). Subjects employed in the second set of analyses were selected from the sample of 180 families if data on behaviour problems, competence, and social support were complete. Only families with adolescents under the age of 18 years were selected, as the measure of behaviour problems was not administered to parents of older adolescents. A subsample of 125 mothers met the criteria for inclusion in the second set of analyses. Target adolescents ranged in age from 12 to 17

years, ( $M = 14.42$ ,  $SD = 1.34$ ,  $N = 125$ ). The number of fathers included in the analyses was somewhat smaller than the number of mothers because fewer fathers were at home during the family interviews. Subjects were distributed unequally across the four groups. There were more Control subjects than Aggressive, Withdrawn, or Aggressive-Withdrawn subjects. Additional information regarding the representativeness of the sample is provided in the Results section.

### Measures

The data collected covered demographic variables and adjustment of parents and children. Measures of parental adjustment were employed as predictors; measures of children's adjustment constituted the criteria. Procedures for prorating questionnaires and assessing their internal consistency are outlined in Appendix A.

### Demographic Variables

Information regarding demographic variables was obtained through an interview schedule shown in Appendix B. The following demographic variables were employed in the present study: age, education and occupation of parents; marital and family status; duration of marriage; previous marriages, divorces, and separations; family size and birth order of the target child. The age of the target child at the time of the home visit was also recorded.

Occupation was coded according to the Siegel Prestige Scale (cited in Mueller & Parcel, 1981), which assigns prestige scores ranging from 0 to



100 to each of several hundred occupations. The scoring procedure and tables for assigning prestige scores to occupations are provided by Hauser and Featherman (1977). This measure was developed by Siegel, who asked approximately 1,000 respondents to rank the prestige of a large number of occupations. Siegel and Hodge (1968) found a high level of test-retest reliability ( $r = .87$ ) for reports of occupation over intervals of several months. In a review of measures of socioeconomic status, Mueller and Parcel (1981) argued that occupationally based measures best reflect the major dimensions of socioeconomic status. Mueller and Parcel recommended the Siegel Prestige Scale on the basis of test-retest reliability and agreement among diverse groups of raters as to the prestige of different occupations.

#### Social Desirability Response Set

Social desirability response bias was assessed with a French translation of the Marlowe-Crowne Social Desirability Scale (SD) described by Crowne and Marlowe (1964). This scale is shown in Appendix C. It consists of 33 items answered as either true or false, with a high score representing a high social desirability response set. Crowne and Marlowe reported high levels of internal consistency and test-retest reliability. A value of .88 was obtained for the Kuder-Richardson internal consistency coefficient. A value of .88 was also reported for the test-retest correlation coefficient across a one-month period.

Parents were given the entire scale containing 33 items. Two of the items were judged as unsuitable for adolescents, and were omitted from the version administered to the adolescents. Both the adult and adolescent

versions showed satisfactory levels of internal consistency. The alpha coefficients were .74 for the adult version ( $N = 359$ ), and .71 for the version administered to adolescents ( $N = 182$ ).

### Measures of Parental Adjustment

Individual Psychopathology. Individual psychopathology of parents was assessed by means of a French translation of the Symptom Checklist 90 (SCL-90), a self-report symptom inventory developed from the Hopkins Symptom Checklist (Derogatis, Lipman, & Covi, 1973). This measure, shown in Appendix D, consists of 90 items which are rated on a 5-point scale ranging from not at all (0) to extremely (4). Raw scores are converted to T Scores according to separate norms for males and for females provided by Derogatis (1977). The SCL-90 consists of nine symptom scales (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic-Anxiety, Paranoid Ideation, Psychoticism) developed through factor analysis. It also provides global measures of psychopathology. The Global Severity Index (GSI), which reflects the mean rating on the 90 items, was selected for use in the present study. Derogatis (1977) recommended the GSI as the single best indicator of level of disorder.

The SCL-90 has demonstrated high levels of internal consistency, test-retest reliability, and convergent validity. Derogatis (1977) reported alpha coefficients for the nine symptom scales ranging from .77 to .90, and test-retest reliabilities over a one-week period ranging from .78 to .90.

Derogatis, Rickels, and Rock (1976) examined the relationship between the SCL-90 symptom scales and MMPI scales. Scales from these two meas-

ures which assessed similar constructs showed significant correlations in the .50 range. The pattern of correlations supported the convergent validity of the SCL-90.

Internal consistency was assessed for each of the nine symptom scales for the French translation. Alpha coefficients ( $N = 347$ ) ranged from .74 for the Paranoid Ideation subscale to .83 for the Somatization subscale, indicating high levels of internal consistency for the nine symptom dimensions.

Intercorrelations among the GSI and the nine symptom scales converted to T scores were calculated for the French translation. The 10 scales showed moderate to high intercorrelations. The GSI was highly correlated with all nine symptom scales. Among mothers ( $N = 182$ ), these correlations ranged from .60 for Phobic Anxiety to .86 for Anxiety. Among fathers ( $N = 165$ ), correlations ranged from .62 for Phobic Anxiety to .86 for Depression. Intercorrelations among the nine symptom dimensions were moderate, with most  $r$ s falling between .40 and .70 for the mother-report scale. Intercorrelations for the father-report measure were slightly lower, but still in the moderate range.

Marital Adjustment. Marital adjustment was measured by a French translation of the Short Marital Adjustment Test (SMAT), a widely employed measure of marital satisfaction (Locke & Wallace, 1959). This test, shown in Appendix E, consists of fifteen items assessing various aspects of the marital relationship, such as frequency of disagreements in various areas and degree of shared interests. Responses are scored according to weights provided by Locke and Wallace. Scores range from 2 to 158, with higher scores representing better adjustment. Locke and Wallace reported a Spearman-Brown split-half reliability coefficient of .90, indicating a high

level of internal consistency. Locke and Wallace assessed the criterion validity of the SMAT by comparing a group of counseling clients judged as experiencing marital distress to a group of individuals who were reported to have exceptionally well-adjusted marriages. SMAT scores were significantly higher among the well-adjusted group than the maladjusted group. Ninety-six percent of the well-adjusted group obtained scores of 100 or more, compared to only 17% of the maladjusted group. These data supported the criterion validity of the SMAT. In a review of child and marital assessment instruments, O'Leary and Turkewitz (1978) recommended the SMAT as a valid measure of marital adjustment. In the present sample, this measure showed high internal consistency, with an alpha coefficient of .78 ( $N = 318$ ). There was modest agreement between mothers and fathers ( $r = .40$ ,  $df = 158$ ,  $p < .001$ ).

Marital Hostility. Marital hostility was assessed by means of a French translation of the O'Leary-Porter Scale (OPS). This scale measures overt marital hostility displayed in front of the target child (Porter & O'Leary, 1980; Emery & O'Leary, 1982), and is shown in Appendix F. The original version consisted of nine scored items and eleven filler items. A revised version consists of 10 items, which for the most part ask parents to rate the frequency of various expressions of marital hostility, such as arguments over finances and physical hostility, in front of the target child. Eight items are scored on a 5-point scale ranging from never (0) to very often (4). Responses on the remaining item range from less than 10% of the time (0) to 75% of the time (4). Scores range from 0 to 36, with high scores representing high levels of hostility expressed in front of the target child. The direction of scoring was reversed in the present study to provide consistency with the SMAT. Test-retest reliability of the original version in a

sample of 14 parents over a two-week period was .96 (Porter & O'Leary, 1980). A correlation of .63 was obtained between the OPS and the Locke Wallace Short Marital Adjustment Test. These results support the test-retest reliability and the concurrent validity of the OPS.

In the present study, the OPS showed high internal consistency, with an alpha coefficient of .80 ( $N = 348$ ). Agreement between mothers and fathers was modest ( $r = .44$ ,  $df = 158$ ,  $p < .001$ ). The correlation between the SMAT and the OPS completed by mothers in the present study was .53,  $df = 158$ ,  $p < .001$ ; the correlation between these two measures completed by fathers was .62,  $df < .001$ .

### Measures of Children's Adjustment

Peer Nominations of Aggression and Withdrawal. The sample being followed by the Concordia Longitudinal High Risk project consists of four groups: the Aggressive group ( $N = 198$ ), the Withdrawn group ( $N = 220$ ), the Aggressive-Withdrawn group ( $N = 238$ ), and the Control group ( $N = 1,110$ ). The groups were selected through a peer nomination procedure conducted in 1977 described by Ledingham (1981). Approximately 4,000 Francophone pupils attending Grades 1, 4, and 7 in the Montreal area participated in the peer assessment procedure.

Aggression and withdrawal were assessed with a French translation of the Pupil Evaluation Inventory (PEI), a peer nomination instrument developed by Pekarik, Prinz, Liebert, Weintraub, and Neale (1976). Factor analytic studies by Pekarik et al. indicated that the PEI consisted of three scales, measuring aggression, withdrawal, and likeability, respectively. Examples of items include "those who always get into trouble," which

loads on the Aggression scale, and "those who are too shy to make friends easily," which loads on the Withdrawal scale. Pekarik et al. reported that aggression and withdrawal were negligibly correlated with each other. The French translation of this instrument is shown in Appendix G.

Children were assigned to groups on the basis of Z-scores obtained on the Aggression and Withdrawal scales. Z-scores were calculated separately for boys and girls within each classroom in order to control for possible gender and age differences in aggression and withdrawal. The Aggressive group included children with Aggression scores above the 95th percentile and Withdrawal scores below the 75th percentile. The Withdrawn group consisted of subjects with Withdrawal scores above the 95th percentile and Aggression scores below the 75th percentile. Children in the Aggressive-Withdrawn group obtained scores above the 75th percentile on both Aggression and Withdrawal. Subjects whose scores fell above the 25th percentile and below the 75th percentile on both Aggression and Withdrawal were assigned to the Control group.

Moskowitz, Schwartzman, and Ledingham (1985) assessed the internal consistency and stability of the French translation of the PEI. Three years after the original selection of the high risk sample, 10% of control subjects and 40% of the subjects in the Aggressive, Withdrawn, and Aggressive-Withdrawn groups were retested. Subjects were in Grades 4, 7, and 10 at the time of follow-up. An additional sample of Grade 1 students was also tested. Alpha coefficients for the Aggression scale were extremely high, ranging from .89 to .97. The internal consistency of the Withdrawal dimension was lowest in Grade 1, and increased with age. Alpha coefficients ranged from .64 for Grade 1 boys to .94 for Grade 10 girls. Thus, the French translation of the PEI demonstrated extremely high internal consis-

tency for Aggression across all grade levels, and for Withdrawal in Grades 4, 7 and 10. Internal consistency was more modest for the Withdrawal dimension among first grade students, but still satisfactory.

Moskowitz et al. (1985) reported correlations between initial and three-year follow-up scores for Aggression and Withdrawal. Moderate levels of stability were found for the Aggression dimension, with corrected test-retest  $r$ s ranging from .44 to .69 across the different gender and grade subsamples. The Withdrawal dimension showed moderate stability for subjects who were in Grades 4 and 7 at the time of initial testing, with corrected  $r$ s ranging from .50 to .78. This dimension showed lower levels of stability in boys ( $r = .38$ ) and girls ( $r = -.07$ ) who were initially in Grade 1 than for subjects in later grades. In summary, Aggression and Withdrawal showed moderate stability across a three-year interval for the different gender and grade subsamples, with the exception of the Withdrawal dimension assessed in Grade 1.

Social Competence and Behaviour Problems. Social competence and behaviour problems were assessed with a French translation of the Child Behaviour Checklist (CBCL) parent report form, developed by Achenbach (1978) and Achenbach and Edelbrock (1979). The French translation is shown in Appendix H. This version of the CBCL was originally targeted at parents of adolescents between the ages of 12 and 16 years. However, as recommended by Achenbach and Edelbrock (1983), the CBCL was also administered to parents of 17-year-olds in the present sample.

The measure of competence consists of 20 items which are rated on a three-point scale ranging from below average to above average. The items are divided into three scales: (a) the Activities scale, which reflects participation in sports, hobbies, and chores; (b) the Social scale, which assesses

membership in organizations, number of friends, and behaviour alone or with others; and (c) the School scale, which evaluates academic performance. These three measures are summed to comprise the Social Competence (SC) score. Raw scores are converted to  $T$  scores according to norms provided by Achenbach and Edelbrock (1983). In the present sample, mother report SC scores were moderately correlated with scores on the Activities Scale,  $r = .73$ ,  $df = 119$ ,  $p < .01$ , the Social Scale,  $r = .67$ ,  $df = 119$ ,  $p < .01$ , and the School Scale,  $r = .55$ ,  $df = 119$ ,  $p < .01$ . Therefore, only SC scores were employed in the present study.

The measure of behaviour problems consists of 112 items which are rated on a three-point scale ranging from not true (0) to very true or often true (2). Factor analyses described by Achenbach and Edelbrock (1983) indicated 13 factors in a large sample of boys, and 11 factors in a large sample of girls. A second-order factor analysis demonstrated two broadband factors, reflecting Internalizing and Externalizing problems respectively. A Total Behaviour Problem (TBP) score is also available. Raw scores for all dimensions are converted to  $T$  scores according to norms provided by Achenbach and Edelbrock (1983). In the present sample, the Internalizing, Externalizing, and Total Behaviour Problem scales were highly intercorrelated, with  $rs$  ranging from .77 to .92. Since the Internalizing and Externalizing dimensions lacked discriminant validity, only the TBP scale was used in the present study.

Numerous studies have assessed the psychometric properties of the CBCL (Achenbach & Edelbrock, 1983). Test-retest reliabilities over one week were obtained for CBCL's completed by mothers of approximately 80 children. A median  $r$  of .89 was obtained across different scales and different groupings according to age and gender. Agreement between mothers



and fathers was assessed in a sample of approximately 200 children. A median  $r$  of .66 was obtained. CBCL scores have been found to discriminate between clinic and nonclinic samples. In a large-sample study, non-clinic subjects obtained higher scores on all competence scales and lower scores on all scales measuring behaviour problems than nonclinic subjects. These data provide strong support for the test-retest reliability and convergent validity of the CBCL, and indicate moderate interparental agreement.

Experience of Social Support. The adolescent's experience of social support was assessed with a French translation of the Provisions of Social Relations (PSR), which is described by Turner, Frankel, and Levine (1983). The French translation is shown in Appendix I. The revised version of this instrument consists of six items assessing support from the family, and nine items measuring support from friends. Items are rated on a five-point scale ranging from very much like my experience (0) to not at all like my experience (4). High scores represent a high level of social support.

Turner et al. (1983) investigated the psychometric properties of the PSR in large samples of physically disabled community residents and ex-psychiatric patients. Factor analyses validated Friend Support and Family Support as two separate dimensions. High levels of internal consistency were found. Alpha coefficients ranged from .75 to .87 for the total score and the two subscales across the two samples. Turner et al. reported a correlation of .62 with the Revised Kaplan Scale, an alternative measure of the experience of social support. These results support the internal consistency and convergent validity of the PSR.

The Family Support (FS) subscale was selected for inclusion in the present study because this aspect of social support was most relevant to the questions examined in the present study. An alpha coefficient of .57

( $N = 179$ ) was obtained in the present sample, indicating moderate internal consistency.

### Procedure

Follow-up testing of the original high-risk sample was conducted by the Concordia Longitudinal High Risk Project between June 1982 and May 1985. Approximately once a month, 60 subjects were randomly selected from a computer file. A letter was sent to each of the randomly selected subjects describing the research project, asking the child to participate in a day of testing at Concordia University, and requesting the parents to agree to a home visit. This letter appears in Appendix J.

During the course of laboratory testing at Concordia, adolescents completed the SD scale and the PSR. These measures were administered as part of a large test battery requiring between five and six hours of testing. To avoid fatigue, subjects received two breaks during the testing session, during which refreshments such as fruit juice were served. Subjects also were provided with lunch during a one-hour break. The adolescents received payment for their participation. Subjects were assessed individually in the laboratory by five French-speaking testers, (three graduate students and two research assistants). The assessors were blind to each subject's PEI category.

Each home was visited by a team consisting of one male interviewer and one female interviewer. There were seven M.A. psychologists who served as interviewers. The mother and father were interviewed separately in different rooms, by an interviewer of the same gender. The parent-report measures employed in the present study, comprising assessment of demo-

graphic variables, the SD, the SCL-90, the SMAT, the OPS, and the CBCL were administered to parents as part of a larger battery of tests. Parents received \$25 for their participation. The testing procedure lasted approximately two hours.

## RESULTS

### Data Analysis Strategy

The data analyses addressed the following issues with respect to each of the four measures of children's adjustment. First, the possibility that adjustment was confounded with demographic characteristics or social desirability response set was evaluated. Stepwise multiple regression was employed for the purpose of selecting the factors which were most likely to act as confounding variables. Although there are difficulties with this procedure, such as inflation of alpha level, these drawbacks are less significant when this procedure is used for exploratory rather than explanatory research purposes (Tabachnick & Fidell, 1983). It is useful for exploratory research questions which require selection of a subset of predictors. The procedure was used for that purpose in the present study.

Next, the relationship between adjustment in children and adjustment in parents was examined. Multivariate analyses of variance (MANOVAs) and covariance (MANCOVAs) were employed to assess differences in parental adjustment across the four PEI classification categories. Eta squared was used throughout as a measure of effect size. Multiple regression was employed to assess the predictability of children's behaviour problems, social competence, and experience of support from the measures of parental adjustment. Tabachnick and Fidell (1983) have recommended hierarchical multiple regression as a technique for assessing whether the more specific measures contribute to the predictability provided by general measures. Since the measures of parental adjustment were considered to have an implicit order in terms of their specificity, a hierarchical solution was employed. The GSI was

therefore entered in the first step, the SMAT in the second step, and the OPS in the third step. Demographic characteristics or SD score were entered as predictors prior to the GSI when identified as potential confounding variables.

The interaction between parental psychopathology and marital adjustment was also of interest. A term representing the interaction between these two variables was calculated as the product between GSI and SMAT scores (see Appendix K). Due to constraints in sample size, this term was not included in the multivariate analyses of variance. It was employed, however, in the hierarchical multiple regression analyses, and entered subsequent to the GSI, the SMAT, and the OPS.

To assess gender differences in the relationship of PEI classification category to parental adjustment, a hierarchically organized 2 (Gender) X 4 (PEI category) MANOVA design was employed. The issue of unequal cell sizes, as discussed by Tabachnick and Fidell (1983), was taken into account in selecting the ANOVA design. When cell sizes are unequal, the same variance can be attributed to more than one main effect or interaction, the result of which would be inflated alpha levels and diminished interpretability of results. When independent variables can be assigned different levels of priority, a hierarchical approach represents one possible solution. With this approach, variance explained by more than one factor is attributed to the factor assigned the higher level of priority. Variance is attributed to the lower-priority factors only if it cannot be explained by the higher-priority factors. Gender was assumed to possess a higher level of priority than PEI category. The effects of PEI category were adjusted for gender, with the interaction being adjusted for both factors.

To assess gender differences in the context of the multiple regression analyses, the samples of boys and girls were first analyzed separately and then

combined into one sample. In the full sample of boys and girls, vectors representing gender and the interactions between gender and parental psychopathology, marital adjustment, and overt hostility were created (see Appendix K). Gender differences were assessed by comparing results from samples of boys and girls examined separately, and noting whether interactions between gender and parental adjustment improved predictability in the full sample.

Prior to commencing the data analyses, the frequency distributions of all variables were inspected in order to evaluate the need for data transformations. Family size and birth order of the target child showed severe positive skew. Therefore, these two variables were recoded into four categories, representing values of one, two, three, and four or more respectively. For example, an only child was coded as one for both family size and birth order, while a child with five younger siblings was coded as four for both of these variables.

Results are reported in six sections. The first deals with sampling. The second reports comparisons by PEI group classification. The third, fourth, and fifth sections report findings on the prediction of children's competence, behaviour problems, and experience of social support respectively. The final section examines the relationships among the measures of children's functioning. In each section, results of analyses using mother report measures are described first, followed by results of father report measures.

### Representativeness of Subjects

Several issues regarding the representativeness of subjects were examined. First, the representativeness of the preliminary follow-up sample of 296 families assessed by the Concordia Longitudinal High Risk Project was

evaluated with respect to the high risk sample as a whole. The representativeness of the entire preliminary sample was examined, rather than the subsamples who met the inclusion criteria for the present study. Since the latter groups were selected on the basis of a marital relationship having a duration of at least seven years, these families were not expected to be representative of the total high risk sample. The second issue was whether subjects included in analyses of PEI category differed from subjects who were excluded due to incomplete data. If missing data were systematically associated with subject characteristics, this would indicate a biased sample. Third, the question of whether subjects employed in the multiple regression analyses differed from subjects who were excluded due to missing data was addressed. Since only adolescents under the age of 18 were included in the multiple regression analyses, only adolescents under the age of 18 were used to assess representativeness. Finally, the sample employed in analyses of PEI category was compared to the subsample employed in the multiple regression analyses. Detailed information regarding the analyses of representativeness is provided in Appendices L to O. Results are summarized below.

The representativeness of the preliminary follow-up sample is discussed in Appendix L. Aggression and Withdrawal  $Z$  scores obtained in the preliminary follow-up sample were comparable to  $Z$  scores found in the total high risk sample within each PEI classification group. A lower rate of participation in follow-up testing was noted among boys in the Control group than among boys in the other three groups. In view of the large size of the Control group, the lower participation rate was unlikely to affect the generalizability of results. Older adolescents were under-represented in the preliminary follow-up sample, limiting the generalizability of results. Boys and girls did not differ in their participation rates.

The relationship between subject characteristics and exclusion of subjects from analyses involving PEI classification category is discussed in Appendix M. Exclusion of parents due to missing data showed small but statistically significant correlations in the .20 range with the number of children in the family and with the birth order of the target child. Parents of large families were more likely not to complete all questionnaires. Exclusion due to missing data was not significantly associated with PEI classification category, nor with any of the remaining demographic variables or questionnaire measures. In general, there was little evidence of bias in the sample.

The representativeness of the sample used in the multiple regression analyses with respect to the sample of adolescents under the age of 18 years is discussed in Appendix N. Exclusion of both mothers and fathers as a result of missing data was significantly correlated with the age of the child, with  $r$ s in the .30 range. Parents with older children were more likely not to complete all questionnaires. However, exclusion was not significantly correlated with any of the remaining demographic variables or questionnaire scores. These findings are unlikely to limit the generalizability of results.

Comparisons between the sample employed in the analyses related to PEI classification category and the subsample employed in the multiple regression analyses are presented in Appendix O. A disproportionate number of Aggressive and Withdrawn subjects were excluded from the multiple regression analyses. Mothers who reported higher levels of behavior problems in their offspring were also more frequently excluded. In addition, exclusion of both mothers and fathers showed modest correlations in the .30 range with age of parents and duration of marriage, as well as high correlations in the .70 range with child's age. Older parents with older children and whose marriages were of longer duration were less likely to complete all



questionnaires. However, the two samples did not differ with respect to any other demographic characteristics or questionnaire measures. This pattern of results was not surprising. The analyses of PEI classification category included adolescents up to the age of 21 years, while adolescents over the age of 18 were excluded from the multiple regression analyses. The difference in age between the two samples may also account for their different distribution across PEI classification category. Ledingham (1981) found that in Grade 1, fewer subjects fell into the Aggressive and Withdrawn groups than would be expected, while the number of Aggressive-Withdrawn subjects was larger than anticipated. The opposite pattern occurred among Grade 7 students. Thus, PEI classification category was associated with age in the high-risk sample as a whole.

### Analyses by PEI Category

#### Demographic Variables and SD Scores

Hierarchically organized 2 (Gender) X 4 (PEI Category) ANOVAs were conducted to assess differences in ages of mothers, fathers, and target children; parental educational levels; occupational prestige scores; duration of marriage; and parent report SD scores. Univariate, rather than multivariate analyses were used in order to provide a more liberal test of differences in demographic variables. Occupational prestige scores were unavailable for one mother and seven fathers. These subjects were excluded from the ANOVA assessing group differences in occupational prestige. The assumption of homogeneity of variance for the demographic variables and SD scores is discussed in Appendix P. This assumption was not met by father's

age and duration of marriage. The remaining measures met the assumption of homogeneity of variance.

The ANOVA summary table is shown in Appendix Q. The main effect of PEI category was significant for child's age,  $F(3,172) = 12.78, p < .001, \eta^2 = .18$ , mother's age,  $F(3,172) = 8.97, p < .001, \eta^2 = .13$ , father's age,  $F(3,150) = 8.46, p < .001, \eta^2 = .14$ , and duration of marriage  $F(3,172) = 4.09, p < .01, \eta^2 = .07$ . Neither the main effect for gender nor the interaction effects were significant ( $p \geq .10$ ) for the above variables. There were no significant main effects or interactions ( $p \geq .10$ ) for occupational prestige scores, educational levels, or SD scores reported by parents. Since similar results were obtained for mothers and fathers, it is unlikely that the heterogeneity of variance in father's age and duration of marriage produced major distortions in the results.

The mean age of mothers, fathers, and children, as well as the mean duration of marriage in each PEI classification category are shown in Appendix R. All pairwise comparisons were conducted by means of the Scheffé procedure, which is robust with respect to unequal  $n$ s. Since this is a conservative procedure, an alpha level of .10 was used, as recommended by Ferguson (1971). As Appendix R shows, children in the Withdrawn group were significantly older than children in the Aggressive-Withdrawn and Control groups, while Aggressive children were significantly older than Aggressive-Withdrawn children. Mothers of children in the Aggressive group and the Withdrawn group were significantly older than mothers of children in the Aggressive-Withdrawn and Control groups. Fathers of Aggressive children were significantly older than fathers of Aggressive-Withdrawn and Control subjects, while fathers of Withdrawn children were significantly older than fathers of Aggressive-Withdrawn children. The mean duration of

marriage was significantly higher among parents of Aggressive children than among parents of Aggressive-Withdrawn children. In summary, the results suggested a pattern of older family members in the Aggressive and Withdrawn groups than in the Aggressive-Withdrawn and Control groups.

Chi square tests were employed to examine the distribution of number of children in the family and birth order of target child across the four PEI categories. Chi square tests with boys and girls combined indicated a random distribution across the four PEI categories for both family size,  $\chi^2 (9, N = 180) = 9.67, p \geq .10$ , and birth order,  $\chi^2 (9, N = 180) = 11.83, p \geq .10$ . These tests were repeated for each gender separately and again, nonsignificant ( $p \geq .10$ ) results were obtained. Thus, PEI category was not confounded with either family size or birth order.

Since the frequency of parents reporting past separations from their current spouse, as well as previous marriages to others was extremely low, formal statistical analyses on these variables were not undertaken. Previous separations from the current spouse were reported in the families of 11 children; previous marriages were reported by 11 mothers and six fathers. These frequencies may not be consistent with current divorce statistics, since subjects were selected on the basis of a marital relationship lasting more than seven years. Inspection of the data suggested that separation and previous marriages were roughly proportional to the number of subjects in each PEI category.

In summary, PEI category was not confounded with parental education levels, occupational prestige scores, SD scores, family size, and birth order of the target child. However, age of family members and duration of marriage were confounded with PEI category, with individuals among the Aggressive

and Withdrawn groups being older than those among the Aggressive-Withdrawn and Control groups.

### Parental Adjustment

In order to assess differences in parental psychopathology, marital distress, and overt hostility across the four PEI categories for boys and girls, a 2 (Gender) X 4 (PEI category) hierarchically organized MANOVA was conducted for each parent's scores on the GSI, SMAT, and OPS. Multivariate analyses were employed in view of the moderate to high intercorrelations among the dependent measure (refer to Appendix S).

### Selection of Covariates

Since GSI, SMAT and OPS scores were expected to show significant correlations with demographic variables and SD score, analysis of covariance was employed to partial out error variance explained by these variables. Correlations between each parent's scores on the GSI, SMAT, and OPS and background variables are shown in Appendix S. Social desirability was the only variable which consistently correlated with the three measures of parental adjustment. Correlations between SD scores and the three dependent measures ranged from .16 for mother's SMAT ( $df = 177$ ,  $p < .05$ , one-tailed) to -.47 for fathers' GSI scores ( $df = 149$ ,  $p < .01$ , one-tailed). Several other variables correlated with the measures of adjustment in a less consistent way. Education was significantly correlated with fathers' SMAT scores ( $df = 149$ ,  $r = .26$ ,  $p < .01$ , one-tailed). Family size was significantly correlated with mothers' GSI scores ( $df = 177$ ,  $r = .15$ ,  $p < .05$ , one-tailed).

Stepwise multiple regression was employed in the selection of covariates. The seven demographic variables, as well as SD scores were regressed on GSI, SMAT and OPS scores. As would be expected from the intercorrelations, SD score was the first variable entered for all six regression equations, producing a significant ( $p < .05$ ) change in  $R$ -squared in each case. SD was the only significant predictor of mothers' GSI scores, explaining 7.4% of the variance,  $F(1,177) = 14.21$ ,  $p < .001$ ; mothers' SMAT scores, explaining 2.7% of the variance  $F(1,177) = 4.88$ ,  $p < .05$ ; and fathers' OPS scores, explaining 10.8% of the variance,  $F(1,149) = 18.11$ ,  $p < .0001$ . For mothers' OPS scores, SD explained 5.6% of the variance,  $F(1,177) = 10.46$ ,  $p < .002$ , while duration of marriage explained an additional 2.1%,  $F(2,176) = 4.02$ ,  $p < .05$ . For fathers' GSI scores, SD explained 22.1% of the variance,  $F(1,149) = 42.34$ ,  $p < .0001$ , while birth order contributed an additional 2.2% of explained variance,  $F(2,148) = 4.21$ ,  $p < .05$ . For fathers' SMAT scores, SD explained 14.6% of the variance,  $F(1,149) = 25.47$ ,  $p < .0001$ , while education explained an additional 4.2%,  $F(2,148) = 7.58$ ,  $p < .01$ .

We considered social desirability response set to be the most appropriate covariate for the MANCOVA, since it was consistently the best predictor for all three dependent measures. In addition, we judged that mean scores adjusted for SD lend themselves to meaningful interpretation. We assumed that the inclusion of SD as a covariate would increase the power of the analyses by partialling out error variance in the measures of parental functioning. Furthermore, as described in a later section, SD score was also the single best predictor of CBCL scores. The use of SD as a covariate served to maintain consistency across the different analyses.

To assess the replicability of MANOVAs in which SD score was employed as a covariate, the analyses were repeated first without covariates,

and then with child's age employed as a covariate. Since PEI category was confounded with age, the latter factor was included as a covariate in order to assess whether PEI category would continue to show significant effects if the variance in the measures of parental adjustment shared by both PEI category and age was ascribed to age. This analysis was deemed necessary in spite of the absence of correlations between child's age and the GSI, SMAT, and OPS scores. When a covariate was employed, it was assigned the highest level of priority in the hierarchical MANCOVA. Thus, the main effects and the interaction were adjusted for the covariate.

#### Mother Report Measures

A 2 (Gender) X 4 (PEI category), hierarchical MANCOVA was conducted to assess group differences in GSI, SMAT, and OPS scores. Social desirability was employed as a covariate. The assumptions of MANCOVA were met by the data (refer to Appendix T). A significant multivariate effect was obtained for SD score, Pillai's criterion = .10,  $F(3,169) = 6.22$ ,  $p < .01$ , indicating that inclusion of this covariate resulted in significant adjustment of the questionnaire measures. The multivariate effect of PEI category showed a trend towards significance, Pillai's criterion = .10,  $F(9,513) = 1.89$ ,  $p < .10$ ,  $\eta^2 = .09$ , providing modest support for group differences in maternal functioning. As expected, the multivariate effect for gender did not reach significance, Pillai's criterion = .00,  $F(3,169) = .22$ ,  $p \geq .10$ . The multivariate interaction effect failed to achieve significance, Pillai's criterion = .03,  $F(9,153) = .51$ ,  $p \geq .10$ . Thus, the hypothesis that boys are more sensitive to marital discord was not supported.

Since multivariate tests showed a trend towards a significant PEI effect, univariate tests for this factor were examined. Results are shown in Table 1. The effect of PEI category was significant for adjusted SMAT scores,  $F(3,171) = 2.73, p < .05, \eta^2 = .05$ . This effect was not significant for GSI scores,  $F(3,171) = .90, p \geq .10$ , nor for OPS scores,  $F(3,171) = 2.02, p \geq .10$ .

The analysis was repeated without covariates and with child's age employed as a covariate. Results of these analyses are presented in Appendix U, and are summarized below. The multivariate trend towards a significant PEI effect was replicated both when no covariates were employed and when child's age was employed as a covariate. When no covariates were employed, trends towards significance ( $p < .10$ ) were obtained for both the SMAT and the OPS. When child's age was employed as a covariate, only the OPS showed a trend towards significance ( $p < .10$ ).

Scheffé post hoc tests were employed to assess the pattern of group differences on adjusted SMAT scores. Table 2 shows mothers' mean scores on the GSI, SMAT, and OPS, as well as means adjusted for social desirability. Mothers in the Aggressive group reported the lowest levels of marital happiness on the SMAT, and mothers in the Aggressive-Withdrawn group, the highest. Scheffé post hoc tests conducted on the mothers' mean SMAT scores adjusted for SD indicated a significant difference between these two groups ( $p < .10$ ). None of the other differences between groups was significant ( $p \geq .10$ ). This pattern of results was unexpected, since none of the three deviant groups differed from the Control group.

In summary, analyses of the mother-report measures provided modest support for differences between PEI categories in maternal functioning. Multivariate tests indicated a trend towards a significant PEI effect for the

Table 1

Univariate F-Tests for PEI Effects on Mother Report GSI, SMAT, and OPS  
Scores Adjusted for SD

Measure <sup>a</sup>	Hypothesis MS	Error MS	F
GSI	84.71	94.00	.90
SMAT	2,172.99	795.37	2.73**
OPS	61.31	30.36	2.02

Note.  $df = 3,172$

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;

OPS = O'Leary-Porter Scale.

\*\* $p < .05$



Table 2

Mothers' Mean Scores on the GSI, SMAT, and OPS across the Four PEI Categories

Measure <sup>a</sup>	PEI Category			
	Aggressive	Withdrawn	Aggressive- Withdrawn	Control
<b>GSI</b>				
M	58.78	60.90	58.87	58.17
Adj. M	58.52	62.00	58.21	58.13
SD	11.18	8.31	11.90	9.47
n	27	20	30	103
<b>SMAT</b>				
M	97.71	106.73	117.85	109.36
Adj. M	98.18 <sup>a</sup>	104.71 <sup>ab</sup>	119.05 <sup>b</sup>	109.46 <sup>ab</sup>
SD	32.67	28.64	20.59	29.02
n	27	20	30	103
<b>OPS</b>				
M	25.96	30.20	28.60	28.40
Adj. M	26.07	29.72	28.88	28.42
SD	5.77	4.32	5.26	5.83
n	27	20	30	103

**Note.** Means designated with different superscripts are significantly different from each other according to Scheffé post hoc tests employing a .10 level of significance.

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test; OPS = O'Leary-Porter Scale.

combination of GSI, SMAT, and OPS scores regardless of whether these scores were adjusted for SD score, adjusted for child's age, or unadjusted. There was no evidence of group differences in maternal psychopathology, since a significant PEI effect was not obtained for the GSI. There was modest support for group differences in marital adjustment. The SMAT showed a significant PEI effect when SD was employed as a covariate, with mothers of children in the Aggressive group reporting the lowest levels of marital adjustment. The relative importance of general marital adjustment and overtly expressed hostility varied according to which covariate was employed. When unadjusted scores were employed, trends towards a significant PEI effect were found for both the SMAT and the OPS. When child's age was employed as a covariate, a trend occurred only for the OPS. Nevertheless, the results provide stronger support for group differences in general marital adjustment, since scores adjusted for social desirability response set reduce error variance and lend themselves to meaningful interpretation.

#### Father Report Measures

A 2 (Gender) X 4 (PEI Category) hierarchical MANCOVA was conducted to assess group differences in GSI, SMAT, and OPS scores. Again, SD score was employed as covariate. The assumptions of MANCOVA were met by the data, with one exception (see Appendix T). SMAT scores showed a significant factor by covariate interaction. The effect of SD score was significant, Pillai's criterion = .27,  $F(3,147) = 18.57$ ,  $p < .001$ , supporting its usefulness as a covariate. The multivariate effect of PEI category was significant, Pillai's criterion = .16,  $F(9,447) = 2.77$ ,  $p < .01$ ,  $\eta^2 = .15$ . Thus, the results of father report questionnaires provided stronger

support for differences in parental functioning across PEI categories than the results of mother report questionnaires. As expected, the multivariate effect of gender was not significant, Pillai's criterion = .01,  $F(3,147) = .73$ ,  $p \geq .10$ . The multivariate interaction effect was not significant, Pillai's criterion = .05,  $F(9,447) = .86$ ,  $p \geq .10$ . Thus, the hypothesis of greater sensitivity to family problems among boys was not supported.

Since multivariate tests indicated a significant PEI effect for the father-report measures adjusted for SD, results of univariate tests were examined (refer to Table 3). These results indicated a significant PEI effect for adjusted GSI scores,  $F(3,149) = 2.66$ ,  $p < .05$ ,  $\eta^2 = .05$ , adjusted SMAT scores,  $F(3,149) = 3.46$ ,  $p < .05$ ,  $\eta^2 = .10$ , and adjusted OPS scores,  $F(3,149) = 5.55$ ,  $p < .01$ ,  $\eta^2 = .10$ . As described in Appendix T, the SMAT scores violated the assumption of parallel regression lines. When the univariate test for this variable was repeated with separate slopes within each PEI category, the results continued to show a significant PEI effect,  $F(3,146) = 6.63$ ,  $p < .001$ . Therefore, for the purpose of additional analyses, a common regression slope was employed for all four PEI categories.

Again, the analysis was repeated without the inclusion of any covariates, and with child's age employed as a covariate. Results of these analyses are presented in Appendix V. In summary, the multivariate effect of PEI category showed a trend towards significance both when no covariate was employed and when child's age was employed as a covariate. In both cases, results of univariate tests indicated significant group differences for the OPS.

Since more than one measure showed a significant PEI effect for adjusted father-report measures, Roy-Bargmann Stepdown  $F$ -tests were conducted. These tests are discussed by Tabachnick and Fidell (1983). When group differences occur on more than one measure, common variance is

Table 3

Univariate F-Tests for PEI Effects on Father Report GSI, SMAT, and OPS  
Scores Adjusted for SD

Measure <sup>a</sup>	Hypothesis MS	Error MS	F
GSI	220.25	82.86	2.66**
SMAT	2191.40	633.37	3.46**
OPS	197.11	35.50	5.55***

Note.  $df = 3,149$

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;

OPS = O'Leary-Porter Scale.

\*\* $p < .05$  \*\*\* $p < .01$

attributed to the measures which are entered first. Measures which are entered earlier function as covariates for measures entered later. Father-report GSI, SMAT and OPS scores adjusted for social desirability were entered in all possible orders to determine which measures were significantly different in terms of their unique variance. A clear pattern emerged when two orders were examined (see Table 4). The first order of entry corresponds to what might be considered an implicit order of priority among the three measures, with the GSI entered first, the SMAT entered second, and the OPS entered last. When the GSI was employed as a covariate, the SMAT showed a trend towards significance,  $F(3,148) = 2.66, p < .10, \eta^2 = .04$ , indicating that the group differences in marital adjustment were not entirely due to common variance between the GSI and the SMAT. With GSI and SMAT scores employed as covariates, the PEI effect for the OPS continued to be significant,  $F(3,147) = 3.48, p < .05, \eta^2 = .06$ . This pattern indicates that group differences in overt marital hostility could not be accounted for by group differences in psychopathology and marital adjustment. However, when these three variables were entered in the reverse order, significant group differences occurred only for the OPS,  $F(3,149) = 5.55, p < .01, \eta^2 = .10$ , which was entered first. Group differences were not significant for the SMAT when it was entered second, or the GSI when it was entered third. The OPS was significantly different across the four groups regardless of its order of entry. Group differences in SMAT scores disappeared when the common variance between the OPS and the SMAT was attributed to the OPS. Group differences in the GSI disappeared when its common variance was attributed to the two marital measures. Thus, the main effect of PEI classification category was most robust with respect to the OPS.

Table 4

Roy-Bargmann Stepdown F-Tests for Father-Report Measures Adjusted for  
SD with Two Orders of Entry

Order	df	Hypothesis MS	Error MS	Stepdown F
GSI, SMAT, OPS <sup>a</sup>				
GSI	3,149	220.25	82.86	2.66**
SMAT	3,148	1394.72	609.42	2.29*
OPS	3,147	80.60	23.17	3.48**
OPS, SMAT, GSI				
OPS	3,149	197.11	35.50	5.55***
SMAT	3,148	722.36	447.60	1.61
GSI	3,147	102.12	73.63	1.39

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;

OPS = O'Leary-Porter Scale.

\* $p < .10$     \*\* $p < .05$     \*\*\* $p < .01$

Given the intercorrelations among these three measures, it seems likely that expression of aggression influenced the scores on all three. While overt hostility is measured most directly by the OPS in the context of marital functioning, it is also related to general marital happiness. It is also included in the GSI symptoms in the context of individual functioning. These results raise the possibility that parental aggression, expressed in the context of both individual psychopathology and marital problems, may be the most important aspect of parental functioning which discriminates between the different PEI categories.

Table 5 shows fathers' mean scores on the GSI, SMAT, and OPS in each PEI category, as well as mean scores on these three measures adjusted for social desirability. Visual inspection suggests that fathers of aggressive children showed the poorest levels of individual and marital functioning. Scheffé post hoc tests on the adjusted means indicated that fathers of aggressive children reported significantly higher levels of psychopathology on the GSI than fathers of aggressive-withdrawn children ( $p < .10$ ). Fathers of aggressive children reported significantly lower levels of marital adjustment on the SMAT than fathers of both aggressive-withdrawn and control children ( $p < .10$ ). Fathers of aggressive children reported greater marital hostility on the OPS than fathers in each of the other three groups. No other differences between groups were significant ( $p > .10$ ) for any of the measures.

In summary, the results provided strong support for differences between the four PEI categories in paternal adjustment. The evidence was clearer when SD was employed as a covariate than when no covariates were employed. The use of age as a covariate had little effect on the results in comparison to when no covariates were employed. Of the three measures of paternal functioning, differences with respect to OPS scores received the strongest support, and

Table 5

Fathers' Mean Scores on the GSI, SMAT and OPS across the Four PEI Categories

Measure <sup>a</sup>	PEI Category			
	Aggressive	Withdrawn	Aggressive-Withdrawn	Control
<b>GSI</b>				
<u>M</u>	63.00	61.11	59.04	59.74
Adj. <u>M</u>	64.56 <sup>a</sup>	61.72 <sup>ab</sup>	57.32 <sup>b</sup>	59.46 <sup>ab</sup>
<u>SD</u>	9.99	10.91	10.33	10.32
<u>n</u>	22	18	23	95
<b>SMAT</b>				
<u>M</u>	105.00	116.50	121.63	119.02
Adj. <u>M</u>	102.76 <sup>a</sup>	115.15 <sup>ab</sup>	125.43 <sup>b</sup>	119.62 <sup>b</sup>
<u>SD</u>	35.78	32.38	23.37	24.78
<u>n</u>	22	18	23	95
<b>OPS</b>				
<u>M</u>	25.32	31.89	29.74	29.35
Adj. <u>M</u>	24.66 <sup>a</sup>	31.61 <sup>b</sup>	30.52 <sup>b</sup>	29.47 <sup>b</sup>
<u>SD</u>	7.19	5.75	30.52	6.51
<u>n</u>	22	18	23	95

Note. Means designated with different superscripts are significantly different from each other according to Scheffé post hoc tests employing a .10 level of significance.

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;

OPS = O'Leary-Porter Scale.



differences with respect to the GSI the weakest support. These results suggest that paternal aggression is a major variable in discriminating between the four PEI categories. The question of where the differences between PEI categories occur received a clear answer from the post hoc tests, with fathers of aggressive children consistently showing the poorest adjustment. The previously described finding of lower adjusted SMAT scores among mothers of aggressive children is consistent with the pattern of group differences obtained from the father report measures.

#### Discrepancies Between Analyses of Mother and Father Report Measures

There were discrepancies between results obtained from father report measures and mother report measures. Analyses of the father report measures provided stronger support for the hypothesis of group differences in parental functioning, and suggested that marital hostility may be a crucial factor in childhood aggression. Evidence from the mother report measures was more tentative. One possible explanation for this discrepancy involves the use of slightly different subject samples for each of the two parents. Out of the 180 subjects employed for the MANCOVA on the mother report measures, only 158 were included in analyses of the father report measures. Therefore, additional analyses were conducted employing a reduced sample of 158 mothers whose spouses had also completed the questionnaires. If results of these analyses resembled the results of analyses obtained from father report measures, this would suggest that the discrepancies were due to differences in the samples. The analyses were therefore repeated employing the reduced sample of mothers. Results are presented in detail in Appendix W. In general, the results resembled those obtained for analyses of father report measures,

with strong evidence of group differences in marital hostility. This pattern suggests that the discrepancy between results obtained from mothers and fathers was due to the use of different samples. In families where only mothers completed the questionnaires, evidence of group differences in maternal adjustment was modest, and emphasized the importance of general marital adjustment. In families where both parents completed the questionnaires, evidence of group differences in both maternal and paternal adjustment received stronger support, and emphasized the importance of marital hostility. One possible explanation for this discrepancy is that fathers who did not participate in the testing are also distant from family life in general, while fathers who participated in testing are more actively involved. This involvement might take either a constructive or destructive form. Perhaps marital hostility is moderated by paternal involvement, and has the greatest effect on children when fathers are highly involved.

#### Multiple Regression Analyses of the CBCL and the PSR

Stepwise multiple regression was employed to examine the relationship of demographic characteristics and social desirability response sets to the following measures of children's adjustment: (a) social competence, (b) behaviour problems, and (c) subjective experience of family support. The following demographic variables employed were: age of target child; age of parent; educational level of parent; occupational prestige score of parent; number of children in family; birth order of target child; and duration of parents' marriage. Hierarchical multiple regression was employed to assess the relationship between mental adjustment and child adjustment. The hierarchical regressions were repeated with demographic variables or social

desirability response set entered in the first step when variables from this set significantly predicted child adjustment. As discussed in Appendix X, the data met the assumptions of multiple regression. Correlations among the measures of maternal adjustment are shown in Appendix Y. Correlations among measures of paternal adjustment are shown in Appendix Z.

When the hierarchical regression analyses were initially conducted, vectors reflecting interactions were included as predictors (refer to Appendix K). When the samples of boys and girls were examined separately, predictors were entered in the following order: (a) GSI, (b) SMAT, (c) OPS, and (d) GSI X SMAT. When boys and girls were combined into one sample, predictors were entered in the following order: (a) Gender (G), (b) GSI, (c) SMAT, (d) OPS, (e) G X GSI, (f) G X SMAT, (g) G X OPS, (h) GSI X SMAT, and (i) G X GSI X SMAT. The results indicated that the interaction terms did not enhance the prediction of children's adjustment. In fact, because of their high correlations with predictors entered in earlier steps (see Appendices Y and Z), these terms obscured the interpretation of the results by introducing suppressor effects. As discussed by Tabachnick and Fidell (1983), suppressor effects occur when two predictors are highly correlated with each other but not with the criterion. A suppressor variable contributes to prediction by partialling out error variance in another predictor, and is identified by discrepancies between its Beta weight and its zero-order correlation with the criterion. The interaction terms either failed to increase the predictability of the criteria, or did so artifactually through suppressor effects. It was therefore decided for purposes of clarity to omit these terms from the presentation of results.

## Mother Report SC Score

### Relationship to Demographic Variables

Appendix AA shows the results of the stepwise multiple regression analyses in the sample of boys, the sample of girls, and the combined sample of boys and girls. In the sample of boys, occupational prestige, number of children, duration of marriage, and child's age were selected for entry into the equation. The increments in variance explained by each predictor ranged from 7% to 12%. With all four predictors entered,  $R = .61$ ,  $R^2_{\text{adjusted}} = .33$ ,  $F(4,52) = 7.81$ ,  $p < .01$ . In the sample of girls, occupational prestige was the only variable which entered the regression equation,  $R = .47$ ,  $R^2_{\text{adjusted}} = .21$ ,  $F(1,66) = 19.19$ ,  $p < .01$ . In the combined sample of boys and girls, occupational prestige was the first predictor selected for entry, explaining 18% of the variance in TC scores. Education entered the equation in the second step, and explained an additional 3% of the variance in the criterion. At the conclusion of the second step,  $R = .45$ ,  $R^2_{\text{adjusted}} = .19$ ,  $F(2,122) = 15.87$ ,  $p < .01$ . Thus, maternal occupational prestige was consistently the best predictor of social competence in children.

### Relationship to Maternal Adjustment

Appendix BB shows the results of the hierarchical regression analyses in the sample of boys, the sample of girls, and the combined sample of girls and boys. None of the multiple correlation coefficients were statistically significant ( $p \geq .10$ ). There was no evidence of a relationship between

maternal adjustment and children's social competence in any of the three samples.

### Father Report SC Score

#### Relationship to Demographic Variables

Appendix CC shows the results of the stepwise multiple regression analyses in the sample of boys, the sample of girls, and the combined sample of boys and girls. In the sample of boys, the child's age was the only significant predictor of father report SC score,  $R = .29$ ,  $R^2$  adjusted = .06,  $F(1,46) = 4.24$ ,  $p < .05$ . In the sample of girls, the father's education emerged as the only significant predictor,  $R = .12$ ,  $R^2$  adjusted = .06,  $F(1,58) = 8.87$ ,  $p < .01$ . In the combined sample of boys and girls, the father's education was the first predictor to enter the equation, explaining 8% of the variance. The child's age entered the equation in the second step, explaining an additional 5% of the variance. At the conclusion of the second step,  $R = .36$ ,  $R^2$  adjusted = .11,  $F(2,105) = 7.64$ ,  $p < .01$ . Thus, the father's education was the single best predictor of father report SC score.

#### Relationship to Paternal Adjustment

Appendix DD shows the results of the hierarchical regression analyses in the sample of boys, the sample of girls, and the combined sample of boys and girls. In the combined sample of boys and girls, the OPS explained 3% of the variance in SC score ( $p < .10$ ). However, since none of the multiple correlation coefficients were statistically significant, the overall pattern of

results provided no evidence of a relationship between paternal adjustment and children's social competence.

### Summary

Maternal occupational prestige was the single best predictor of mother report SC score, while paternal education was the single best predictor of father report SC score. Both occupation and education are commonly regarded as indicators of socioeconomic status, suggesting a relationship between socioeconomic status and children's social competence. In contrast, there was no evidence of a relationship between parental adjustment and children's social competence.

### Mother Report TBP Score

#### Relationship to Demographic Variables

Appendix EE shows the results of the three stepwise multiple regression analyses. In the sample of boys, maternal social desirability response set was the only significant predictor of mother report TBP score,  $R = .29$ ,  $R^2$  adjusted = .07,  $F(1,55) = 5.12$ ,  $p < .05$ . In the sample of girls, mother report TBP score was not predicted by any of the demographic variables or SD score. In the combined sample of boys and girls, SD score was the only significant predictor of the criterion,  $R = .26$ ,  $R^2$  adjusted = .06,  $F(1,123) = 8.79$ ,  $p < .01$ . Thus, mother report SD score was the single best predictor of mother report TBP score.

### Relationship to Maternal Adjustment

Sample of Boys. As shown in Table 6, the multiple correlation coefficient showed a trend towards significance following entry of the OPS in the third step,  $R = .34$ ,  $R^2$  adjusted = .06,  $F(3,53) = 2.29$ ,  $p < .10$ . The GSI, entered in the first step, did not contribute to the predictability of the criterion. The SMAT, entered in the second step, was significantly correlated with the criterion ( $r = -.31$ ,  $df = 56$ ,  $p < .05$ ), and produced an increment in explained variance of eight percent ( $p < .10$ ). However, as shown by the value of  $sr^2$ , this predictor would only explain four percent of the variance if entered in the last step. The OPS, entered in the third step, was significantly correlated with the criterion,  $r = -.27$ ,  $df = 56$ ,  $p < .05$ , but did not contribute to predictability. Thus, marital adjustment contributed to the predictability of child behavior problems when maternal psychopathology was taken into account. Predictability was not further increased by the inclusion of overt marital hostility.

Since TBP was significantly predicted by SD score, the hierarchical regression was repeated with SD entered in the first step. Results of this analysis are presented in Appendix FF. SD functioned as the strongest predictor, explaining nine percent of the variance in the criterion ( $p < .05$ ). Inclusion of this variable resulted in a slight increase in the value of  $R$ , and a slight decrease in the proportion of variance explained by the SMAT.

In summary, SD score was the single best predictor of TBP score in the sample of boys. Evidence of a relationship between behaviour problems and maternal individual and marital adjustment was minimal. Of the measures of maternal adjustment, the SMAT was the best predictor.

Table 6  
Hierarchical Regression of Measures of Maternal Adjustment on Mother  
Report TBP Score

Predictor <sup>a</sup>	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
Sample of Boys					
GSI	.13	.02	.06	<.01	.13
SMAT	.32*	.08*	-.23	.04	-.31**
OPS	.34*	.01	-.14	.02	-.27**
R = .34, R <sup>2</sup> adjusted = .06, F(3,53) = 2.29, p < .10					
Sample of Girls					
GSI	.42***	.18***	.39***	.12	.42***
SMAT	.44***	.02	.28**	.06	-.04
OPS	.53***	.08***	-.34***	.08	-.37***
R = .53, R <sup>2</sup> adjusted = .25, F(3,64) = 8.26, p < .01					
Combined Sample of Boys and Girls <sup>b</sup>					
G	.06	<.01	.04	<.01	.06
GSI	.31***	.09***	.23**	.05	.31***
SMAT	.32***	<.01	.06	<.01	-.16*
OPS	.40***	.06***	-.28***	.06	-.33***
R = .40, R <sup>2</sup> adjusted = .13, F(4,120) = 5.56, p < .01					

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;

OPS = O'Leary-Porter Scale.

\*p < .10    \*\*p < .05    \*\*\*p < .01



Sample of Girls. As shown in Table 6, the multiple correlation coefficient was significant at all points. After entry of the OPS in the third step,  $R = .53$ ,  $R^2$  adjusted = .25,  $F(3,64) = 8.26$ ,  $p < .01$ . The GSI, entered in the first step, was significantly correlated with TBP score,  $r = .42$ ,  $df = 66$ ,  $p < .01$ , and accounted for 18% of the variance. As indicated by the value of  $sr^2$ , this variable uniquely accounted for 12% of the variance. The SMAT, entered in the second step, did not produce a significant increment in explained variance. However, it functioned as a suppressor variable after the OPS was entered in the final step. The OPS, entered in the third step, provided a significant increment in explained variance of eight percent ( $p < .01$ ).

Although TBP score was not significantly predicted by SD or any of the demographic variables, the analysis was repeated with SD entered in the first step in order to maintain consistency. The results are presented in Appendix FF. The results were similar to those obtained with SD omitted, although the proportion of variance explained by the GSI showed a minor decrease.

In summary, the combination of the GSI, the SMAT, and the OPS explained 25% of the variance in the TBP scores. The GSI emerged as the single best predictor, with the OPS providing an additional contribution to explained variance. When the analysis was repeated with SD entered in the first step, there was little change in the pattern of results. The GSI continued to function as the best predictor, although its predictive power was reduced slightly.

Combined Sample. As shown in Table 6, the multiple correlation coefficient was statistically significant. After entry of the OPS in the fourth step,  $R = .40$ ,  $R^2$  adjusted = .13,  $F(4,120) = 5.56$ ,  $p < .01$ . G, entered in the first step, explained none of the variance in the criterion. The GSI, entered in the second step, was significantly correlated with the criterion;  $r = .31$ ,

$df = 123$ ,  $p < .01$ , and provided a nine percent increment in explained variance ( $p < .01$ ). Five percent of the variance in the criterion was uniquely explained by the GSI ( $p < .05$ ). The SMAT, entered in the third step, did not contribute to predictability ( $p \geq .10$ ). The OPS, entered in the fourth step, produced a six percent increment in explained variance ( $p < .01$ ). These results resembled those obtained in the sample of girls, and may have been due to the slightly larger number of girls than boys in the combined sample.

The analysis was repeated with SD entered in the first step. Results are presented in Appendix FF. SD score explained seven percent of the variance, and functioned as the most powerful predictor. The variance explained by both the GSI and the OPS was reduced slightly.

### Summary

The multiple correlation coefficients provided stronger evidence of a relationship between children's behaviour problems and adjustment in mothers in the sample of girls than in the sample of boys. The direction of this difference was surprising, since the literature suggests that boys are more vulnerable to family problems than girls. Maternal psychopathology functioned as a significant predictor in the sample of girls, but not in the sample of boys. This raises the question of whether parental psychopathology shows a stronger relationship to behaviour problems among children of the same gender. However, support for a gender difference was not unequivocal, since none of the interactions between gender and measures of maternal adjustment contributed to prediction in the combined sample of boys and girls.

The measures of maternal adjustment were inconsistent in their predictive power. Social desirability response set was a significant predictor in

the sample of boys; psychopathology was a significant predictor in the sample of girls; marital adjustment showed a trend towards increasing predictability in the sample of boys; and overt marital hostility was a significant predictor in the sample of girls. When mother reports alone are considered, none of the measures emerges as the single best predictor of TBP scores.

### Father Report TBP Score

#### Relationship to Demographic Variables

Appendix GG shows the results of the three stepwise multiple regression analyses. In the sample of boys, father report SD score was the only significant predictor of father report TBP score,  $R = .32$ ,  $R^2$  adjusted = .08,  $F(1,46) = 5.11$ ,  $p < .05$ . In the sample of girls, father report SD score entered the equation in the first step, explaining 14% of the variance in TBP score ( $p < .01$ ). Occupational prestige was entered in the second step, explaining an additional 6% of the variance ( $p < .05$ ). At the conclusion of the second step,  $R = .45$ ,  $R^2$  adjusted = .17,  $F(2,57) = 7.17$ ,  $p < .01$ . In the combined sample of boys and girls, father report SD score entered the equation in the first step, accounting for 12% of the variance in the criterion, ( $p < .01$ ). The child's age entered the equation in the second step and explained an additional 4% of the variance. At the conclusion of the second step,  $R = .40$ ,  $R^2$  adjusted = .16,  $F(2,105) = 10.22$ ,  $p < .01$ . Thus, paternal social desirability response set was the single best predictor of father reports of total behaviour problems.

### Relationship to Paternal Adjustment

Results of the hierarchical regression analyses in the sample of boys, the sample of girls, and the combined sample of boys and girls are shown in Table 7. Similar results were obtained for all three regression equations. The multiple correlation coefficients ranged from .41 to .43. In all three cases, the GSI was the single best predictor, explaining approximately 16% of the variance in father report TBP score. SMAT and OPS scores were significantly correlated with TBP score, but did not increase the predictability provided by the GSI.

The analyses were repeated with SD score and relevant demographic characteristics entered in the first steps. The results are shown in Appendix HH. The inclusion of these variables produced slight increases in the multiple correlation coefficients. When SD score was entered prior to the GSI, SD score explained between 10% and 14% of the variance in father report TBP score. The inclusion of SD score reduced the predictive power of the GSI. With SD score entered in the first step, the GSI explained between 6% and 8% of the variance of the criterion. While the GSI functioned as a powerful predictor, much of this predictive power was due to common paternal response biases in completing the CBCL and the GSI. The role of the demographic variables was not consistent. Occupational prestige accounted for 6% of the variance in TBP score in the sample of girls, while the child's age explained 4% of the variance in the TBP score in the combined sample of boys and girls. Inclusion of these variables did not affect the predictive power of the GSI.

Table 7

Hierarchical Regression of Measures of Paternal Adjustment on Father Report  
TBP Score

Predictor <sup>a</sup>	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
Sample of Boys					
GSI	.41***	.17***	-.34*	.07	-.41***
SMAT	.41***	<.01	-.02	<.01	-.24*
OPS	.42***	.01	-.10	.01	-.32***
R = .41, R <sup>2</sup> adjusted = .13, F(2,45) = 4.57, p < .05					
Sample of Girls					
GSI	.40***	.16***	.34**	.10	.40
SMAT	.42***	.01	-.07	<.01	-.25**
OPS	.43***	.01	-.10	.01	-.27*
R = .43, R <sup>2</sup> adjusted = .14, F(3,56) = 4.16, p < .01					
Combined Sample of Boys and Girls					
G	.09	.01	.10	.01	.09
GSI	.41***	.16***	.34***	.08	.40***
SMAT	.42***	.01	-.04	<.01	-.25***
OPS	.43***	.01	-.11	.01	-.28***
R = .42, R <sup>2</sup> adjusted = .15, F(3,104) = 7.52, p < .01					

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;  
 OPS = O'Leary-Porter Scale.

\*p < .10    \*\*p < .05    \*\*\*p < .01

### Comparison Between Mothers and Fathers

When both mother and father reports are taken into account, parental emotional disturbance appears to be the most consistent predictor of TBP scores. There were, however, discrepancies in the results obtained from analyses of mother and father report measures. Results from father report measures indicated that SD was the single best predictor of TBP scores, with the GSI also providing an increase in explained variance. This pattern was consistent across the samples of boys and girls. A different pattern occurred on the mother report measures. Maternal psychopathology functioned as a significant predictor of TBP score in the sample of girls, but not in the sample of boys. Mother reports of the marital relationship were related to children's behaviour problems, while reports by fathers were not. Social desirability was a more powerful predictor of behaviour problems reported by fathers than by mothers.

There appeared to be two possible explanations for the discrepancies between mother and father report measures. One possibility was the use of a somewhat smaller sample for father report measures. A second possibility was that mothers and fathers differed in their response sets. In order to test the first possibility, the regression analyses employing mother report measures were repeated using only subjects for whom father report measures were available. The results are presented in detail in Appendix II. In general, the results resembled those obtained in the full sample of mothers, indicating that the discrepancies between mother and father report measures were not due to sampling variance.

In order to assess the possibility of different response patterns in mothers and fathers, correlations between SD score and TBP, GSI, SMAT,

and OPS scores were obtained for each parent. Fisher's z tests were conducted to compare mothers and fathers with respect to the size of the correlations between SD and each of the four questionnaires. Results are shown in Appendix JJ. Out of twelve correlation coefficients, five showed significant differences between mothers and fathers with an alpha level of either .05 or .01, while three showed trends towards significance. Father report measures showed higher correlations with SD than did mother report measures. Thus, discrepancies between results from mother and father report measures resulted from a stronger influence of social desirability response set in fathers.

### Child Report PSR Score and Mother Report Measures

#### Relationship to Demographic Variables

Appendix KK shows the results of the three stepwise multiple regression equations. In the sample of boys, number of children in the family was the only significant predictor of child report PSR score,  $R = .42$ ,  $R^2_{\text{adjusted}} = .16$ ,  $F(1,55) = 11.92$ ,  $p < .01$ . In the sample of girls, child report PSR score was not significantly predicted by any of the mother report demographic variables or by SD score. In the combined sample of boys and girls, child report SD score entered the equation in the first step, explaining 6% of the variance ( $p < .01$ ). Number of children in the family entered the equation in the second step, explaining an additional 4% of the variance ( $p < .05$ ). At the conclusion of the second step,  $R = .31$ ,  $R^2_{\text{adjusted}} = .08$ ,  $F(2,122) = 6.69$ ,  $p < .01$ . Thus, both child report SD score and number of children functioned as significant predictors of child report PSR score.

### Relationship to Maternal Adjustment

Sample of Boys. As Table 8 shows, the SMAT produced a seven percent increment in explained variance ( $p < .05$ ). A trend towards significance occurred after entry of this measure in the second step,  $R = .30$ ,  $R^2$  adjusted = .05,  $F(2,54) = 2.61$ ,  $p < .10$ . These results were only modestly suggestive of a relationship between marital adjustment and social support reported by boys, since the multiple correlation coefficient was not statistically significant at any point ( $p \geq .10$ ).

Sample of Girls. There was no evidence for girls of a relationship between child report PSR score and the combination of predictors (see Table 8). The multiple correlation coefficient was not statistically significant at any point ( $p \geq .10$ ). None of the predictors contributed significant increments in explained variance ( $p \geq .10$ ):

Combined Sample. As shown in Table 8, the multiple correlation coefficient was statistically significant after entry of the SMAT in the third step. After entry of the OPS in the fourth step,  $R = .28$ ,  $R^2$  adjusted = .05,  $F(4,120) = 2.48$ ,  $p < .05$ . The SMAT provided a five percent increment in explained variance ( $p < .05$ ). No other variable contributed significantly to predictability ( $p \geq .10$ ).

The regression analysis was repeated with child report SD score and the number of children in the family entered in the first two steps. Results are shown in Appendix LL. Child report SD score functioned as the most powerful predictor, accounting for six percent of the variance in the criterion ( $p < .01$ ). Inclusion of this predictor produced a slight increase in the multiple correlation coefficient, and a slight decrease in the predictive power of the



Table 8

Regression of Measures of Maternal Adjustment on Child Report PSR Score

Predictor <sup>a</sup>	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
Sample of Boys					
GSI	.13	.02	-.08	<.01	-.14
SMAT	.30*	.07**	.32**	.07	.29**
OPS	.31	.01	-.09	.01	.09
R = .31, R <sup>2</sup> adjusted = .04, E(3,53) = 1.82, p ≥ .10					
Sample of Girls					
GSI	.16	.02	-.02	<.01	-.16
SMAT	.24	.03	.10	<.01	.22*
OPS	.30	.04	.23	.04	.29**
R = .30, R <sup>2</sup> adjusted = .05, E(3,64) = 2.17, p ≥ .10					
Combined Sample of Boys and Girls					
G	.04	<.01	.06	<.01	.04
GSI	.15	.02	-.06	<.01	-.15
SMAT	.26**	.05**	.19*	.03	.25***
OPS	.28**	.01	.09	.01	.20**
R = .28, R <sup>2</sup> adjusted = .05, E(4,120) = 2.48, p < .05					

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;

OPS = O'Leary-Porter Scale.

\*p < .10    \*\*p < .05    \*\*\*p < .01

SMAT. The additional inclusion of number of children produced a slight increase in the multiple correlation coefficient.

### Summary

Results obtained in the sample of boys were mildly suggestive of a relationship between the child's experience of support and marital adjustment. This finding was not replicated in the sample of girls. When the samples of boys and girls were combined, clear evidence of a small but statistically significant relationship between marital adjustment and the child's experience of support from the family was obtained. However, this relationship was due in part to common variance among the factors of marital adjustment, the child's experience of support, and the child's social desirability response set.

### Child Report PSR Score and Father Report Measures

#### Demographic Variables

Results of the three regression equations are shown in Appendix MM. In the sample of boys, the number of children in the family was the only significant predictor of child report PSR score,  $R = .51$ ,  $R^2$  adjusted = .24,  $F(1,46) = 16.07$ ,  $p < .01$ . In the sample of girls, child report SD score was the only significant predictor of child report PSR score,  $R = .29$ ,  $R^2$  adjusted = .07,  $F(1,58) = 5.23$ ,  $p < .05$ . In the combined sample of boys and girls, child report SD score entered the equation in the first step, accounting for 8% of the variance, ( $p < .01$ ). The number of children entered the equation in the second step, accounting for an additional 4% of the variance, ( $p < .05$ ). Thus, child

report SD score and number of children were again the only two significant predictors of child report PSR score.

### Relationship to Paternal Adjustment

Results of the three regression analyses are shown in Table 9. The multiple correlation coefficient was not statistically significant at any point in any of the three samples ( $p < .10$ ). In the sample of girls, the seven percent increment in explained variance provided by the SMAT was statistically significant ( $p < .05$ ). None of the other predictors accounted for a significant proportion of variance in any of the three samples.

### Summary

Results of both the mother and father measures were mildly suggestive of a modest relationship between marital adjustment and the child's experience of social support. Clearest support for such a relationship was obtained in analyses of mother report measures in the combined sample of boys and girls. However, the magnitude of this relationship was decreased when child report SD score was included in the equation.

### Relationship Between Measures of Children's Functioning

Correlations between parent report TBP score, parent report SC score, and child report PSR score are shown in Table 10. Correlations between TBP and SC scores were consistently in the .30 range, and usually reached statistical significance.

Table 9

Regression of Measures of Paternal Adjustment on Child Report PSR Score

Predictor <sup>a</sup>	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
Sample of Boys					
GSI	.11	.01	-.15	.01	-.11
SMAT	.11	<.01	.02	<.01	.05
OPS	.13	.02	-.10	.01	<.01
R = .13, R <sup>2</sup> adjusted = -.05, F(3,44) = .25, p ≥ .10					
Sample of Girls					
GSI	.05	<.01	.06	<.01	-.05
SMAT	.26	.07**	.25	.04	.26**
OPS	.26	<.01	.05	<.01	.18
R = .26, R <sup>2</sup> adjusted = .02, F(3,56) = 1.41, p ≥ .10					
Combined Sample of Boys and Girls					
G	.04	<.01	.04	<.01	.04
GSI	.08	.01	> -.01	<.01	> -.01
SMAT	.16	.02	.14	.01	.15
OPS	.16	<.01	-.02	<.01	.02
R = .16, R <sup>2</sup> adjusted = -.01, F(4,103) = .68, p ≥ .10					

<sup>a</sup>GSI = Global Symptom Index; SMAT = Short Marital Adjustment Test;

OPS = O'Leary-Porter Scale.

\*\*p &lt; .05

Table 10

Correlations Between Measures of Children's Functioning

	Mothers		Fathers	
	TBP	PSR	TBP	PSR
Sample of Boys				
SC	-.35**	-.07	-.25**	-.10
TBP		.10		.01
Sample of Girls				
SC	-.27**	-.09	-.23*	.03
TBP		.08		.22*
Full Sample				
SC	-.31***	-.08	-.25**	-.04
TBP		.09		.12

Note. TBP = Total Behaviour Problems; PSR = Provisions of Social Relations; SC = Social Competence.

\* $p < .10$     \*\* $p < .05$     \*\*\* $p < .01$

( $p < .05$ ). The size of these correlations suggests that while these two measures are related, each assesses a different aspect of children's adjustment.

The Family Support Subscale of the PSR was not related to either of the two CBCL scales. Due to constraints in sample size, it was not feasible to assess the relationship of PEI classification category to SC, TBP, and PSR scores.

However, as discussed below, analyses of these relationships have been conducted using a larger sample (Schwartzman, 1987b).

## DISCUSSION

The results did not provide consistent support for the hypotheses of the study. Instead, a more complex pattern of findings emerged. As discussed below, the results are pertinent to the following issues: (a) the question of which aspects of children's development are related to emotional and marital adjustment in parents; (b) the possibility that mothers and fathers exert a differential influence on aggressive behaviour in children; and, (c) the question of whether boys are more vulnerable than girls to the effects of parental maladjustment.

### Adjustment in Parents and in Children

Contrary to predictions, the four aspects of children's adjustment that were examined were differentially related to parental adjustment. The first aspect, aggressive and withdrawn behaviour as rated by peers, was not independent of parental adjustment. The nature of this relationship, however, was not consistent with predictions. We hypothesized that incidence of parental emotional disturbance, marital maladjustment, and overt marital hostility would be highest in parents of Aggressive-Withdrawn children and lowest in parents of Control children. Parents of Aggressive children were expected to fall in the middle. Instead, it was the parents of Aggressive children who most frequently reported maladjustment. Mothers in this group reported marital difficulties, while fathers reported both emotional and marital problems. There were no differences among the parents of Withdrawn, Aggressive-Withdrawn, and Control children.

The finding of maladjustment in parents of Aggressive children but not in parents of Withdrawn children is consistent with the general direction of research reports. Both Rutter (1974) and Emery (1982) concluded that marital discord is more likely to result in aggressive behaviour in children, rather than in other kinds of atypical behavior. As noted by Emery (1982), evidence of a link between childhood withdrawal and marital conflict is modest. There are, however, inconsistencies in the literature regarding the association between these two variables. A recent study by Shaw and Emery (1987) of separated parents found a clearer relationship between childhood withdrawal and marital conflict than between childhood aggression and marital conflict. One possible explanation for these inconsistencies pertains to the wide variation across research instruments with regard to the relation between aggression and withdrawal. Achenbach & Edelbrock (1983) found high correlations between these two dimensions on the CBCL. In contrast, the two factors are negligibly correlated on the PEI (Pekarik et al., 1976). The association between withdrawn behaviour in children and marital discord may therefore reflect more a correlation between childhood withdrawal and aggression. The present results indicate that marital distress is unrelated to withdrawn behaviour in children when aggression and withdrawal are assessed as independent dimensions.

The finding that parents of Aggressive-Withdrawn children by their own report were relatively well-adjusted is difficult to explain. The combination of aggressive and withdrawn behaviour in children has been proposed as a precursor pattern of schizophrenia in adulthood (Ledingham, 1981). Schizophrenia has been linked to maladaptive functioning in close relatives (Gottesman, 1978). In addition, evidence that these children are more disturbed than other children in terms of peer acceptance and academic



achievement could lead us to expect evidence of more disturbance in their parents. For example, Aggressive-Withdrawn children were the targets of criticism from their mothers more frequently than were children in the Aggressive, Withdrawn, or Control groups (Beaudet & Schwartzman, 1987). The nature of the aggressive-withdrawn behaviour pattern, however, is not clearly understood. A six-year follow-up study of approximately 300 children in the Concordia Longitudinal High Risk Study found evidence of deficient intellectual abilities and immature motor development among Aggressive-Withdrawn children (Schwartzman, Moskowitz, & Ledingham, 1984). Milich and Landau (1984) employed a peer nomination technique to identify Aggressive, Withdrawn, and Aggressive-Withdrawn kindergarten boys. Subjects in the Aggressive-Withdrawn group received the highest scores on teacher ratings of hyperactivity. This finding was replicated in a sample of older elementary school boys (Landau & Milich, 1985). Perhaps then, the aggressive-withdrawn behaviour pattern reflects either a constitutional deficit or the influence of early rearing experience which predisposes towards hyperactivity and difficulties in intellectual and motor development. It therefore is possible that the frequent criticism of Aggressive-Withdrawn children by their mothers (Beaudet & Schwartzman, 1987) is a reaction by mothers to deficits in their children and less the result of maternal or marital problems.

The results indicated a modest relationship between marital adjustment and the child's experience of social support provided by family. Although this link was more modest than the association between marital adjustment and aggressive behaviour in children, this pattern of results suggests that marital adjustment, aggressive behaviour in children, and the child's experience of social support from family are inter-related. In fact, preliminary analyses of

the relationship between PEI classification category and the child's experience of social support (Schwartzman, 1987b) indicated significant differences across PEI classification groups, with Aggressive subjects reporting the lowest levels of support provided by families. Since parents of the Aggressive subjects also reported the poorest levels of marital adjustment, this pattern is consistent with the hypothesis that the child's experience of support provided by family is a mediating variable in the relationship between marital adjustment and childhood aggression.

Links between marital maladjustment, the child's experience of support provided by family, and aggressive behaviour in children can perhaps be understood in the context of a model proposed by Patterson (1986). This model emphasizes deficiencies in parental skills such as problem-solving and effective discipline in the development of antisocial behaviour in children. As noted by Patterson and Stouthamer-Loeber (1984), deficient child-rearing practices are correlated with marital conflict. According to Patterson's (1986) model, the child is reinforced for noncompliant behaviour, and parent-child interactions characterized by mutual coercion rather than problem-solving gradually develop. The child's noncompliance generalizes to interactions with peers. The child eventually elicits rejection from both parents and peers, and develops low self-esteem. Our finding that aggressive behaviour in children was related both to marital conflict and to the child's experience of social support suggests that the latter variable may function as a mediator in this relationship. Patterson's model suggests that marital conflict may have contributed to coercive parent-child relationships indirectly, by influencing child-rearing practices.

In contrast to the pattern described above, both children's behaviour problems and their social competence as measured by the CBCL were not

consistently related to marital adjustment. Instead, children's behaviour problems were most consistently associated with emotional disturbance in their parents. Surprisingly, social competence in children was independent of both personal and marital adjustment in parents. This dimension of children's functioning, however, was related to education and occupational status of parents.

The pattern of results suggests that different aspects of adjustment in children are related to particular dimensions of adjustment in parents. The measures of marital adjustment and marital hostility assess interpersonal behaviour in the context of the spousal relationship. Peer-rated aggression and child-rated support from family emerged as the two aspects of children's adjustment which were related to marital functioning. These two dimensions of children's adjustment also reflect interpersonal functioning. In contrast, the measures of behaviour problems in children and emotional disturbance in parents focus on personal experience, although they clearly include interpersonal behaviours. Social competence in children and parent education and occupation reflect a dimension of general competence. Perhaps different aspects of children's adjustment tend to be similar to comparable dimensions of parental adjustment. It is unlikely, however, that different aspects of children's functioning are entirely independent, especially since results of the present study indicate a modest correlation between children's behaviour problems and social competence.

### Roles of Mothers and Fathers

The present study yielded a number of unexpected results which suggest that mothers and fathers may differ in their influence on aggressive behaviour

in children. The assumption of greater involvement of mothers than fathers in child-rearing led us to expect a relationship between adjustment in children and maternal, rather than paternal psychopathology. Archer et al. (1986), for example, found that symptoms in adolescents were more closely related to psychopathology in mothers than in fathers. The present results, however, emphasized the association between aggression in children and reports of adjustment by fathers, rather than mothers. Emotional disturbance in fathers, but, surprisingly, not in mothers, varied across the four groups. Evidence of group differences in marital distress and in marital hostility was comparatively strong when the sample consisted only of families in which both fathers and mothers participated in the testing procedure. When all mothers, with or without their mates, were included in the sample, evidence of group differences in these two variables was more modest.

The research literature has consistently linked absence of fathers with juvenile delinquency. It may be, however, that in a subgroup of families characterized by high paternal involvement, fathers contribute to children's aggression by their own disruptive behaviour and/or by modeling aggressive behaviour. The finding that emotional disturbance in fathers but not in mothers is related to aggressive behaviour in children makes sense in the context of research on families of juvenile delinquents (Hetherington, Stouwie, & Ridberg, 1971; Henggeler, Edwards, & Borduin, 1987). Employing observational methodology, these authors found that fathers of juvenile delinquents play an extremely dominant role in the family, while mothers adopt a more passive position. If we assume that the family structure of Aggressive children resembles that of juvenile delinquents, it is likely that the fathers of Aggressive children play an extremely dominant role in the family and exert a greater influence on offspring than mothers. Emotional disturbance in these

fathers, more so than mothers, would have an important bearing on the development of aggression in children. For example, maladjusted fathers who are prominently involved in family life may function as extremely salient models of maladaptive behaviour. Our results would be consistent with this view. The generalizability of these results, however, remains to be determined, since these findings were derived only from families in which both parents participated in the family interview.

It is likely that fathers of Aggressive children also engage in aggressive behaviour. Overt marital hostility was associated with aggressive behaviour in children when both emotional and marital adjustment were taken into account. In contrast, the relationship of individual and marital adjustment in fathers to aggressive behaviour in children disappeared when overt marital hostility was statistically controlled. This pattern suggests that aggressive behaviour in fathers, reflected in the measures of individual and marital adjustment as well as in overt marital hostility, may be the crucial variable in discriminating aggressive from non-aggressive children. If paternal aggression exerts the strongest influence on children's adjustment, aggressive behaviour is more likely to be related to emotional disturbance in fathers than in mothers. The literature provides ample evidence that men behave more aggressively than women (see Maccoby & Jacklin, 1974; 1980), although this evidence is not unequivocal (Tieger, 1980). Further research is needed to clarify the nature of gender differences in aggression, and particularly whether fathers are more likely than mothers to behave aggressively in the family context.

The relatively strong association of childhood aggression to marital maladjustment and hostility among families in which fathers participated in testing suggests that paternal involvement may moderate the relationship between marital problems and adjustment in children. One possible

interpretation of these data is that fathers who did not participate in testing were also more distant from family life in general. Fathers who participated in testing may have been more actively engaged. This involvement may take either a constructive or destructive direction. Marital hostility may therefore be moderated by paternal involvement, and have its impact through fathers who are highly involved or physically present. This view is consistent with findings regarding the effects of divorce on children. In a review of the literature, Hetherington (1979) concluded that intact families with high levels of conflict are more detrimental to the well-being of children than divorced families. Perhaps distance between two hostile spouses serves a protective function in both divorced and intact families.

If involvement of fathers is a moderator variable, then this factor may account at least in part for the discrepant findings in the literature regarding the relationship between overt marital hostility and behaviour problems in children. For example, although Porter and O'Leary (1980) found that overt marital hostility was related to behaviour problems in children, Emery and O'Leary (1982) were unable to replicate these results. Further research is needed to determine the influence of paternal involvement as a moderator variable in examining the effects of overt marital hostility.

The results also suggested that paternal self-rated adjustment and father-rated children's adjustment were more highly correlated with paternal social desirability response set than the corresponding mother-rated indices. Results dealing with father reported behaviour problems indicated that emotional disturbance in fathers was a strong predictor of behaviour problems in both boys and girls. When the influence of social desirability response set was discounted, however, only a modest relationship between fathers' psychopathology and children's behaviour problems remained. By contrast,

mother reports were relatively independent of social desirability response set. This pattern is consistent with findings reported by Schaughency and Lahey (1985), who concluded from their study that mother reports of their children's behaviour are more valid than father reports. Perhaps fathers who spend less time in the home and lack detailed knowledge of their children's behaviour are more likely as informants to respond in a socially desirable direction. Another possibility is that fathers do in fact elicit more socially desirable behaviour from children. Since fathers are likely to spend shorter periods of time with their children than mothers, they may exercise more authority and offer more novel stimulation than mothers. Both of those views are consistent with the moderate size of correlations obtained between mother and father reports.

### Gender Differences

The results provided modest support for the hypothesis that behaviour problems in children are more closely associated with emotional disturbance in the same-sex parent. Mother reports indicated that behaviour problems in girls but not in boys were related to emotional disturbance in mothers and to overt marital hostility. Behaviour problems in boys but not in girls were modestly related to mother reports of marital distress. The apparent gender differences should be interpreted with caution. The connection between maternal emotional disturbance and behaviour problems in their daughters but not in their sons parallels Anderson's (1969) finding that emotional problems of boys were qualitatively similar to those of their fathers. The results, although consistent with the view that identification with the same-sex parent is related to the development of behaviour problems, provide only modest support for this hypothesis. Interactions between child's gender and parental

psychopathology were unrelated to children's behaviour problems. Moreover, this pattern was not replicated with respect to the study's other measures of children's adjustment.

The hypothesis that boys are more vulnerable to the effects of marital discord than girls was also not supported in the present study. The findings were consistent with those reported by Whitehead (1979), but not with the results noted by Emery and O'Leary (1982). Subjects in the present sample were older than those of other similar studies. It may be that during adolescence, boys and girls are equally vulnerable to the influence of marital discord. Gender differences may be more pronounced only in younger children. This would be consistent with Block, Block, and Morrison's (1981) hypothesis that young girls experience less conflict of loyalties than young boys when parents disagree. Young girls may resolve the conflict by allying themselves with the mother, who is the more salient parent. Young boys may experience a more intense conflict, since both parents may be equally salient to them. As girls become older, however, fathers may become more salient, and girls may experience a greater degree of conflict. There is a need for longitudinal studies of conflicted intact families from early childhood onwards in order to clarify this issue. Since findings of gender differences in clinic samples may also be due to sampling artifacts (Johnson & O'Leary, 1984), longitudinal studies should follow epidemiologically derived populations.

### Limitations of the Present Study

The present study did not deal with developmental changes in children's response to parental maladjustment and with the direction of causality in the



relation between maladjustment in parents and children. There were also several methodological limitations related to sampling and measurement.

The study examined families of older children and adolescents. Children in this age range are in the process of separating from their families and developing independence. It is therefore possible that their adjustment is less obviously linked with that of their parents than would be the case among younger children. For example, the absence of a relation in this study between the child's experience of support and the personal adjustment of parents was unexpected. Perhaps such a relation would be observed in younger children. That is, emotional disturbance of mothers may be expected to influence the child's experience of support during periods when the bond between mother and child is strongest. Further longitudinal research which compares children at different developmental stages in their vulnerability to parental psychopathology therefore appears necessary.

The present study did not assess direction of causality in the relationship between adjustment in parents and children. There is evidence in the literature of both parent effects and child effects. As noted by Rutter (1985), correlations between family environment and adjustment in children do not necessarily reflect a unidirectional causality, with children responding only to parental behaviour. Instead, the correlations may be due either to child effects or to the effects of a third variable, such as genetic transmission or housing conditions. Patterson's (1986) model includes both parent effects, such as deficient discipline practices, and child effects, such as difficult temperament. According to this model, a wide range of factors influence the development of mutually coercive family processes which function as the context of the child's aggressive behaviour. Further research is necessary to more clearly delineate the contributions of children and their parents.

The present study was also limited by a number of methodological constraints. These constraints may have influenced the findings concerning peer evaluations of aggression and withdrawal. There was a time lapse of between five and seven years between administration of the peer assessments of aggression and withdrawal and the follow-up family interviews. It was assumed that both the peer evaluations and the parent reports of emotional and marital problems would be sufficiently stable to demonstrate nonindependence. Temporal change in either aggressive and withdrawn behaviour in children or in parental adjustment would bias the results in a conservative direction. The magnitude of the relationship observed in the present study is, however, comparable to that reported in the literature. As noted by Emery (1982), studies which employ nonclinic samples tend to find that marital distress is modestly related to behaviour problems in children. Studies which use a clinic sample usually report a stronger association between these two variables. The magnitude of the relationship between marital distress and aggression in children appears comparable to that reported by Emery & O'Leary (1984) in a nonclinic sample.

The finding that parents of Aggressive-Withdrawn children reported the best levels of adjustment may have been influenced by sampling factors. Children in this group were younger than those in the Aggressive group and the Withdrawn group. A similar confound between the ages of children and their PEI classification category has been found in the high risk sample as a whole (Ledingham, 1981). Ledingham calculated the number of boys and girls in each grade who would theoretically be expected to fall into each of the four groups. The predicted rates were then compared with observed rates. Among Grade 1 students, the Aggressive-Withdrawn group was larger than anticipated while both the Aggressive group and the Withdrawn group were

smaller than expected. The opposite pattern occurred among Grade 7 students. The Aggressive-Withdrawn group was smaller than expected, while both the Aggressive group and the Withdrawn group were larger than anticipated. Ledingham concluded that the pattern of both aggressive and withdrawn behaviour is more likely to be found in younger children, and represents an immature mode of behaviour. The confound between age and PEI category may therefore be inherent in peer evaluations of aggression and withdrawal. It was not possible to determine whether similar results would have been obtained if the four groups had been equated in age.

Sampling factors may also have influenced the discrepancies among different aspects of children's adjustment. Child's age was not used as a criterion for the inclusion of subjects in analyses pertaining to the PEI, since to do so would have resulted in unacceptably small cell sizes. Subjects aged 18 years and over were, however, excluded from analyses of the CBCL and the PSR. This requirement excluded the older socially deviant adolescents, and may have restricted the range of behaviour in the sample to whom the CBCL and the PSR were administered. Sampling factors may have therefore attenuated the relation of parental adjustment to behaviour problems, social competence, and perception of support provided by family.

The nature of the measures employed in the study may have also contributed to discrepancies between different aspects of children's adjustment. For example, as noted earlier, there was a discrepancy between the findings concerning children's behaviour problems as measured by the CBCL and those concerning peer assessments of children's aggression and withdrawal as measured by the PEI. The former results emphasized the relevance of emotional problems in parents, while the latter findings emphasized the relevance of marital factors. The discrepancy between the two

sets of results may be due to differences in breadth of the two measures of children's adjustment. Peers rated the children on the dimensions of aggression and withdrawal, while parents rated them on the general dimension of behaviour problems. It seems reasonable to assume that the CBCL measure of behaviour problems, as the more general index of children's adjustment, correlated with a general index of parental adjustment in the present study, while the assessment of a more circumscribed range of problem behaviours, children's aggression and withdrawal, was also linked with more specific indices of marital conflict. The CBCL measure of social competence, which correlated with parental education and occupational status, was also a global index. The breadth of this measure might also have obscured links between social competence in children and parental adjustment. It is possible that this measure, which contains items related to academic achievement and hobbies, reflects predominantly middle-class values. The relationship of social competence in children to parental education and occupational status may have simply reflected a greater emphasis placed by parents with higher levels of education and occupational prestige on their children's academic achievement and pursuit of extra-curricular activities.

Additional limitations may stem from the socio-cultural characteristics of the Francophone sample. The generalizability of these results needs to be examined in an Anglophone population.

### Implications of the Present Study

These results underline the need for research which examines children's adjustment in the broader perspective of family functioning rather than in the limited context of individual parent psychopathology. The broader research,

perspective permits observation of a patterning of data. Aggressive behaviour in children was related to marital unhappiness and overt marital hostility, and children's perceptions of support provided by family were related to marital maladjustment. In contrast, children's behaviour problems were related to emotional disturbance in parents, while their social competence was related to parental education and occupational prestige. This patterning of findings raises the question of whether different aspects of children's adjustment parallel comparable aspects of parental adjustment. Further research is needed to test this hypothesis. It would be useful, for example, to examine the association between aspects of adjustment in parents and children that vary according to whether they reflect interpersonal versus solitary behaviour. It seems likely that social behaviour in children would be more similar to interpersonal behaviour styles of parents as social role models, rather than to cognitive or emotional symptoms which lack an interpersonal component. It would be important to equate the measuring instruments with respect to their breadth and informant source.

Further research is needed to assess developmental aspects of the relation between adjustment in parents and children. It would be useful to compare systematically different age groups of children, using both cross-sectional and longitudinal studies, to assess whether adjustment in younger children is more closely linked to adjustment in their parents. Findings of the present study, which used an older sample, may not apply to younger children. This possibility was suggested by the unexpected absence of a relation between emotional adjustment in parent and children's perceptions of social support provided by family in our study. It may be that younger children's perceptions of support are in fact related to the emotional adjustment of parents and that this association will be most apparent with respect to

maternal adjustment during the early years when the mother-child bond is strongest. It would also be useful to determine whether there are gender differences in vulnerability to parental maladjustment among younger children.

Research is needed to further the development of causal models that link adjustment in parents and children. Results of the present study suggest that social support, paternal involvement, and marital unhappiness and hostility are important factors in the causal sequence. The present results also emphasize the need to assess children's aggressive behaviour as an independent dimension. Aggression may be the aspect of children's adjustment which is most closely associated with the marital relationship.

The results make it evident that thorough clinical evaluation of behaviorally disordered children and their parents is essential. Childhood aggression in particular appears closely connected to the family context. It is important, therefore, that family problems receive the careful attention of clinicians who deal with aggressive children. In cases of childhood aggression, the results suggest that it is important to assess for overt and covert marital discord. Our findings indicate that it is the overt form that exerts detrimental effects on the child. It is also important that clinicians assess the involvement of fathers in family life, and evaluate the effects of father absence under defined conditions. Finally, since it can be assumed that not all childhood problems are related to maladjustment in parents, research is needed to establish which kinds of childhood disorders are most likely to stem from factors other than those whose origins lie in the dynamics of disturbed family relationships. Our results indicate that children who are frequently aggressive and frequently withdrawn may be dealing with problems that are not primarily related to parental psychopathology or marital discord.

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APPENDIX A

## APPENDIX A

## Prorating Procedures and Assessment of Internal Consistency

Questionnaire measures were prorated when subjects omitted less than 20% of the items. Approximately five percent of the questionnaires required prorating. Most of the prorated questionnaires were missing only one item. The prorating was accomplished by substituting the mean of the completed items for the missing item. For questionnaires with weighted items, the weights were taken into account in the prorating procedure.

Since French translations of English questionnaires were employed, alpha coefficients were calculated to assess the internal consistencies of the French translations. All questionnaires completed by subjects in the preliminary sample were included in the analyses of internal consistency, regardless of whether the subjects met the criteria for the present study.

APPENDIX B

## APPENDIX B

## Interview Questions for Demographic Variables

1. Quel âge avez-vous?
2. Combien d'années de scolarité avez-vous complétées?
- 3) Avez-vous un emploi présentement? Recevez-vous des prestations d'assurance-chômage? du Bien-Etre Social?
4. Quel genre de travail faisiez-vous? (par ex.: ingénieur, magasinier, fermier). Pouvez-vous être plus précis?
5. Quelles étaient vos activités ou responsabilités les plus importantes? (par ex.: tenue de livres, vendre des automobiles, l'opération d'une presse d'imprimerie, maçonnerie).
6. De quel genre d'industrie ou compagnie s'agissait-il? (par ex.: manufacturier d'appareils radio et TV, magasin au détail de souliers, Ministère de Revenu, ferme).
7. Etiez-vous employé(e) d'une compagnie privée, dépendant d'un particulier ou d'une compagnie pour vos gages, salaire, commission? Un employé du gouvernement (fédéral, provincial ou municipal)?  
Travailliez-vous à votre propre compte pour votre commerce, pratique professionnelle, ou ferme? Votre propre commerce non incorporé?  
Travailliez-vous sans salaire pour un commerce ou une ferme familiale?

## APPENDIX B Continued

8. J'aimerais avoir une idée de votre niveau de revenu approximatif. Je vais vous lire des catégories de revenus et dites-moi laquelle décrit le mieux le revenu, avant déduction, du chef de famille.

a.	moins de 8,000\$	e.	14,000 à 16,000	i.	22,000 à 24,000
b.	8,000 à 10,000	f.	16,000 à 18,000	k.	24,000 à 26,000
c.	10,000 à 12,000	g.	18,000 à 20,000	l.	plus de 26,000 \$
d.	12,000 à 14,000	h.	20,000 à 22,000		

9. Combien d'enfants avez-vous?

Combien d'enfants ont moins de 18 ans?

10. Pourriez-vous me les nommer en commençant par le plus vieux? (Obtenez le rang de naissance de l'enfant-cible).
11. Si vous avez à compléter un recensement, qu'est-ce que vous marquerez pour votre statut matrimonial?
12. Depuis combien de temps êtes-vous mariés?
13. Avez-vous déjà été séparé(e) de votre présent conjoint? Si oui, pour combien de temps et depuis quand? (Date).
14. Avez-vous déjà été(e) marié avant?
15. Dans le cas d'une famille monoparentale. Etes-vous divorcé(e), séparé(e) ou veuf(ve)? Depuis combien de temps êtes-vous dans cette situation?

APPENDIX C



## APPENDIX C

## French Translation of the SD Scale

Voici quelques phrases portant sur des attitudes et des opinions personnelles. Lisez chaque phrase et décidez si elles expriment quelque chose qui est vrai ou faux de vous-même.

## VRAI FAUX

- |       |       |     |  |
|-------|-------|-----|--|
| _____ | _____ | 1.  | Je n'hésite jamais à offrir mon aide à une personne en difficulté.                                       |
| _____ | _____ | 2.  | Parfois, je trouve ça difficile de continuer mon travail si on ne m'encourage pas.                       |
| _____ | _____ | 3.  | Je n'ai jamais détesté quelqu'un.  |
| _____ | _____ | 4.  | J'ai déjà eu peur de ne pas pouvoir réussir dans la vie.   |
| _____ | _____ | 5.  | Des fois, ça m'irrite quand les choses ne se passent pas comme je le voudrais.                           |
| _____ | _____ | 6.  | Je prends toujours soin de ma tenue vestimentaire.   |
| _____ | _____ | 7.  | Je me conduis aussi bien à table à la maison qu'au restaurant.   |
| _____ | _____ | 8.  | S'il m'était possible d'entrer au cinéma sans payer et sans être vu(e), je le ferais probablement.       |
| _____ | _____ | 9.  | Il m'est arrivé quelques fois d'abandonner un ouvrage parce que je ne me pensais pas assez bon.          |
| _____ | _____ | 10. | J'aime bien commérer de temps en temps.  |
| _____ | _____ | 11. | J'ai déjà eu envie de m'en prendre à des personnes d'autorité même si je savais qu'elles avaient raison. |
| _____ | _____ | 12. | Peu importe avec qui je suis, je sais toujours bien écouter.   |

## APPENDIX C Continued

- \_\_\_\_\_ 13. Je me souviens d'avoir fait semblant d'être malade pour éviter quelque chose.
- \_\_\_\_\_ 14. J'ai déjà profité de la bonne volonté de quelqu'un.
- \_\_\_\_\_ 15. J'ai toujours été prêt(e) à reconnaître mes erreurs.
- \_\_\_\_\_ 16. J'essaie toujours de mettre en pratique ce que je dis.
- \_\_\_\_\_ 17. Je peux m'entendre avec tout le monde, même avec les gens prétentieux et désagréables.
- \_\_\_\_\_ 18. Je suis parfois porté(e) à prendre ma revanche sur quelqu'un plutôt que de pardonner et d'oublier.
- \_\_\_\_\_ 19. Je ne suis pas gêné(e) de reconnaître mon ignorance sur certains sujets.
- \_\_\_\_\_ 20. Je suis toujours poli(e), même envers les gens qui ne le sont pas.
- \_\_\_\_\_ 21. J'ai parfois insisté fortement pour que les choses se fassent à ma manière.
- \_\_\_\_\_ 22. J'ai déjà eu le goût de détruire des choses.
- \_\_\_\_\_ 23. Je ne pourrais pas supporter l'idée de laisser quelqu'un se faire punir à ma place.
- \_\_\_\_\_ 24. Ça ne me dérange pas de rendre un service à quelqu'un qui m'en a déjà rendu un.
- \_\_\_\_\_ 25. Je ne suis pas agacé(e) quand on exprime des opinions très différentes des miennes.
- \_\_\_\_\_ 26. Il m'est déjà arrivé d'être jaloux(se) de la chance des autres.
- \_\_\_\_\_ 27. J'ai très rarement eu envie de chicaner quelqu'un.
- \_\_\_\_\_ 28. Parfois, ça m'achale quand on me demande des faveurs.
- \_\_\_\_\_ 29. Je ne me suis jamais senti(e) puni(e) sans raison.

## APPENDIX C Continued

- \_\_\_\_ 30. Je suis parfois porté(e) à croire que les gens malchanceux n'ont que ce qu'ils méritent.
- \_\_\_\_ 31. Je n'ai jamais volontairement dit quelque chose pour faire de la peine à quelqu'un.
- \_\_\_\_ 32. Avant de voter, j'examine en détails les qualifications de tous les candidats.
- \_\_\_\_ 33. Je ne fais jamais un grand voyage sans vérifier la sécurité de mon automobile.

APPENDIX D

## APPENDIX D

## French Translation of the SCL-90

Ci-dessous, se trouve une liste de problèmes et de plaintes que les gens formulent de temps à autres. Veuillez, S.V.P., lire chacune de ces plaintes attentivement. Dès que vous l'aurez fait, indiquez par le numéro approprié la réponse qui décrit le mieux COMMENT CE PROBLEME VOUS A DERANGE OU AFFLIGE DURANT LES SEPT (7) DERNIERS JOURS, AUJOURD'HUI INCLUS.

ECHELLE: 0 pas de tout  
 1 un peu  
 2 modérément  
 3 passablement  
 4 énormément

EXAMPLE: COMMENT AVEZ-VOUS ETE DERANGE PAR:

2 1. Des maux de dos

COMMENT AVEZ-VOUS ETE DERANGE PAR:

- 1. des maux de tête
- 2. la nervosité ou tremblement intérieur
- 3. des pensées désagréables répétées qui ne vous lâchaient pas
- 4. des évanouissements ou des étourdissements
- 5. la perte de l'intérêt ou du plaisir sexuel
- 6. le fait d'être porté à critiquer les autres

## APPENDIX D Continued

- \_\_\_ 7. l'idée que quelqu'un d'autre contrôle vos pensées
- \_\_\_ 8. le sentiment que les autres surtout sont à blâmer pour vos problèmes
- \_\_\_ 9. le fait d'avoir de la difficulté à vous rappeler quelque chose
- \_\_\_ 10. le fait d'être inquiet(e) à propos de la malpropreté ou de la négligence
- \_\_\_ 11. être facilement ennuyé(e) ou irrité(e)
- \_\_\_ 12. des douleurs au coeur ou à la poitrine
- \_\_\_ 13. la peur des espaces ouverts ou d'être sur la rue
- \_\_\_ 14. le sentiment de manquer d'énergie ou d'être au ralenti
- \_\_\_ 15. des pensées d'en terminer avec la vie
- \_\_\_ 16. le fait d'entendre des voix que les autres n'entendent
- \_\_\_ 17. des tremblements
- \_\_\_ 18. le sentiment qu'on ne peut pas se fier à la plupart des gens
- \_\_\_ 19. le peu d'appétit
- \_\_\_ 20. le fait de pleurer facilement
- \_\_\_ 21. le fait d'être gêné(e) ou mal à l'aise avec des personnes du sexe opposé
- \_\_\_ 22. le sentiment d'être pris(e) au piège ou immobilisé(e)
- \_\_\_ 23. avoir soudainement pris peur sans raison
- \_\_\_ 24. des accès de colère que vous ne pouviez pas contrôler
- \_\_\_ 25. être effrayé(e) de sortir seul(e) de la maison
- \_\_\_ 26. vous blâmer vous-même pour des choses
- \_\_\_ 27. des douleurs dans le bas du dos
- \_\_\_ 28. le sentiment de ne plus avancer dans ce que vous faites
- \_\_\_ 29. le sentiment d'être seul(e)
- \_\_\_ 30. le fait d'avoir de cafard
- \_\_\_ 31. le fait de vous inquiéter trop à propos de rien

## APPENDIX D Continued

- \_\_\_\_\_ 32. n'être pas intéressé(e) à rien
- \_\_\_\_\_ 33. vous être senti(e) craintif(ve)
- \_\_\_\_\_ 34. le fait que vos sentiments sont trop facilement blessés
- \_\_\_\_\_ 35. les autres gens sont au courant de vos pensées intimes
- \_\_\_\_\_ 36. le sentiment que les autres ne vous comprennent pas ou sont antipathiques
- \_\_\_\_\_ 37. le sentiment que les gens ne sont pas amicaux ou ne vous aiment pas
- \_\_\_\_\_ 38. d'avoir à faire les choses très lentement pour s'assurer que tout est correct
- \_\_\_\_\_ 39. des palpitations ou des battements rapides du coeur
- \_\_\_\_\_ 40. des nausées ou l'estomac dérangé
- \_\_\_\_\_ 41. le fait de vous sentir inférieur(e) aux autres
- \_\_\_\_\_ 42. des muscles endoloris
- \_\_\_\_\_ 43. le sentiment que vous êtes surveillé(e) ou que les autres parlent de vous
- \_\_\_\_\_ 44. de la difficulté à vous endormir
- \_\_\_\_\_ 45. le fait d'avoir à vérifier et revérifier ce que vous faites
- \_\_\_\_\_ 46. de la difficulté à prendre des décisions
- \_\_\_\_\_ 47. la peur de voyager par autobus, métro ou train
- \_\_\_\_\_ 48. de la difficulté à reprendre votre haleine
- \_\_\_\_\_ 49. bouffées de froid ou de chaleur
- \_\_\_\_\_ 50. d'avoir à éviter certaines choses, endroits ou activités parce que vous en avez peur
- \_\_\_\_\_ 51. le fait de vous sentir la tête vide
- \_\_\_\_\_ 52. des engourdissements ou des démangeaisons de différentes parties de votre corps
- \_\_\_\_\_ 53. des serremments de gorge

## APPENDIX D Continued

- \_\_\_\_\_ 54. un sentiment de désespoir face à l'avenir
- \_\_\_\_\_ 55. de la difficulté à vous concentrer
- \_\_\_\_\_ 56. le fait de vous sentir faible de certaines parties de votre corps
- \_\_\_\_\_ 57. de vous sentir tendu(e) ou à bout de nerfs
- \_\_\_\_\_ 58. des sentiments de lourdeur dans les bras ou les jambes
- \_\_\_\_\_ 59. de penser à la mort ou à mourir
- \_\_\_\_\_ 60. trop manger
- \_\_\_\_\_ 61. vous sentir mal à l'aise quand les gens vous regardent ou parlent de vous
- \_\_\_\_\_ 62. avoir des pensées qui ne sont pas les vôtres
- \_\_\_\_\_ 63. avoir envie de battre, blesser ou faire mal à quelqu'un
- \_\_\_\_\_ 64. vous réveiller aux petites heures du matin
- \_\_\_\_\_ 65. avoir à répéter les mêmes gestes comme toucher, compter, laver
- \_\_\_\_\_ 66. passer des nuits blanches ou avoir le sommeil troublé
- \_\_\_\_\_ 67. avoir des envies de briser ou casser des choses
- \_\_\_\_\_ 68. croire ou avoir l'idée que personne ne veut partager
- \_\_\_\_\_ 69. vous sentir très intimidé(e) par les autres
- \_\_\_\_\_ 70. vous sentir mal à l'aise parmi les foules comme au cinéma ou dans les magasins
- \_\_\_\_\_ 71. les sentiment que tout est un effort
- \_\_\_\_\_ 72. des crises de frayeur ou de panique
- \_\_\_\_\_ 73. vous sentir mal à l'aise de manger ou boire en public
- \_\_\_\_\_ 74. avoir souvent des disputes
- \_\_\_\_\_ 75. vous sentir nerveux(se) lorsque vous êtes seul(e)
- \_\_\_\_\_ 76. les autres ne vous donnent pas le crédit souhaité pour vos accomplissements



## APPENDIX D Continued

- \_\_\_\_\_ 77. le sentiment d'être seul(e) même lorsque vous êtes avec d'autres
- \_\_\_\_\_ 78. vous sentir si agité(e) que vous ne pouvez pas rester assis(e) tranquille
- \_\_\_\_\_ 79. sentiment d'être bon à rien
- \_\_\_\_\_ 80. le sentiment que quelque chose de mauvais va vous arriver
- \_\_\_\_\_ 81. le fait de crier et de lancer des objets
- \_\_\_\_\_ 82. avoir peur que vous allez vous évanouir en public
- \_\_\_\_\_ 83. le sentiment que les gens prendront avantage de vous si vous les laissez faire
- \_\_\_\_\_ 84. d'avoir des pensées à propos du sexe qui vous dérangent beaucoup
- \_\_\_\_\_ 85. l'idée que vous devriez être puni(e) pour vos péchés
- \_\_\_\_\_ 86. des pensées et des impressions de nature effrayante
- \_\_\_\_\_ 87. l'idée que quelque chose de sérieux ne va pas avec votre corps
- \_\_\_\_\_ 88. ne jamais vous sentir proche d'une autre personne
- \_\_\_\_\_ 89. des sentiments de culpabilité
- \_\_\_\_\_ 90. l'idée que quelque chose ne va pas avec votre esprit

## APPENDIX E

## APPENDIX E

## French Translation of the SMAT

1. Faites une croix sur un des points de l'échelle ci-dessous, cela traduisant le degré de bonheur, à tout considérer, de votre présent mariage. Le point milieu "heureux" représente le point de bonheur que la plupart des gens retirent de leur mariage. L'échelle descend graduellement sur un côté pour les quelques-uns qui sont très malheureux en mariage. Elle va de l'autre côté pour les quelques-uns qui font l'expérience d'un extrême jouissance de félicité dans leur mariage.

	Très malheureux	Heureux	Parfaitement heureux	
Etablissez une estimation approximative sur l'accord ou le désaccord entre vous et votre conjoint sur les items suivants. S.V.P. cochez dans "une" colonne pour seulement pour chaque question.				
	Toujours d'accord	Presque toujours d'accord	Occasion- nellement en désaccord	
			Fréquemment en désaccord	
			Presque toujours en désaccord	
			Toujours en désaccord	
2.	Gère le budget de la famille			
3.	Questions de récréation			
4.	Démonstra- tions d'affection			
5.	Les amis			
6.	Relations sexuelles			
7.	Conventions: bon juste, conduite propre			
8.	Philosophie de la vie			
9.	Manière de s'arranger avec les beaux-parents			

## APPENDIX E Continued

10. Quand des désaccords s'élèvent, cela a généralement pour résultat que: le mari cède \_\_\_\_\_, l'épouse cède \_\_\_\_\_, l'accord se fait par concessions mutuelles \_\_\_\_\_.
11. Vous et votre conjoint vous engagez-vous dans des intérêts extérieurs ensemble? Tous \_\_\_\_\_, quelques-uns d'entre eux \_\_\_\_\_, très peu d'entre eux \_\_\_\_\_, aucun d'entre eux \_\_\_\_\_.
12. Durant vos moments de loisirs, préférez-vous généralement: aller "trotter" ailleurs \_\_\_\_\_, rester à la maison \_\_\_\_\_? Votre conjoint préfère-t-il généralement: aller "trotter" ailleurs \_\_\_\_\_, rester à la maison \_\_\_\_\_?
13. Avez-vous déjà souhaité ne vous être jamais marié(e)? Fréquemment \_\_\_\_\_, occasionnellement \_\_\_\_\_, rarement \_\_\_\_\_, jamais \_\_\_\_\_.
14. Si vous aviez à refaire votre vie, pensez-vous que vous: épouseriez la même personne \_\_\_\_\_, épouseriez une personne différente \_\_\_\_\_, ne vous marieriez pas du tout \_\_\_\_\_?
15. Vous confiez-vous à votre conjoint: presque jamais \_\_\_\_\_, rarement \_\_\_\_\_, dans beaucoup de cas \_\_\_\_\_, dans tous les cas \_\_\_\_\_?

## APPENDIX F

## APPENDIX F

## French Translation of the OPS

S.V.P. Répondez à ces questions au meilleur de votre connaissance. Ces questions portent sur votre fils/fille \_\_\_\_\_, seulement.

1. Il est difficile ces jours-ci, avec les budgets serrés qu'on connaît, de s'en tenir à un temps et un moment précis pour discuter des questions financières. Combien de fois vous et votre conjoint débâtez de questions d'argent en présence de cet enfant?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

2. Les enfants vont souvent voir l'un des parents pour de l'argent ou une permission pour faire quelque chose après que l'autre ait refusé. Combien de fois diriez-vous que cet enfant vous approche ou approche votre conjoint après que l'autre ait refusé et obtient des résultats positifs?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

3. Souvent, mari et femme ne sont pas d'accord sur des questions de discipline. Combien de fois vous et votre conjoint débâtez de problèmes de discipline en présence de cet enfant?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

4. Combien de fois cet enfant vous a entendu argumenter vous et votre conjoint du rôle de l'épouse dans la famille (ménagère épouse qui travaille, etc.)?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

## APPENDIX F Continued

5. Combien de fois votre conjoint se plaint de vous ou de vos habitudes personnelles (boisson, être toujours sur le dos de l'autre, manque de soin, etc.) devant cet enfant?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

6. Combien de fois vous vous plaignez à votre conjoint de ses habitudes personnelles devant cet enfant?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

7. Dans tous les ménages normaux, les couples ont des désaccords. Selon vous, environ de quel pourcentage cet enfant est témoin des désaccords entre vous et votre conjoint?

Moins que 10% \_\_\_\_ 10-25% \_\_\_\_ 26-50% \_\_\_\_ 51-75% \_\_\_\_ Plus que 75% \_\_\_\_

8. Jusqu'à un certain point, nous avons tous fait l'expérience de coups, de tête dans des moments de stress. Combien de fois cet enfant est-il/elle exposé(e) à l'expression physique d'hostilité entre vous et votre conjoint?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

9. Combien de fois vous et/ou votre conjoint exprimez-vous vos hostilités verbalement en présence de cet enfant?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

10. Combien de fois vous et votre conjoint démontrez votre affection l'un pour l'autre devant cet enfant?

Jamais \_\_\_\_ Rarement \_\_\_\_ De temps en temps \_\_\_\_ Souvent \_\_\_\_ Très souvent \_\_\_\_

APPENDIX G



## APPENDIX G

## French Translation of the Pupil Evaluation Inventory

Students are instructed to nominate the four boys who are best described by each of the following items.

1. Ceux qui agissent plus jeunes que leur âge.
2. Ceux qui aident les autres.
3. Ceux qui ne sont pas capables de rester assis tranquilles.
4. Ceux qui essaient de mettre les autres dans le trouble.
5. Ceux qui sont trop timides pour se faire des amis facilement.
6. Ceux qui se sentent trop facilement blessés.
7. Ceux qui prennent des airs supérieurs et qui pensent qu'ils valent mieux que tout le monde.
8. Ceux qui font les clowns et font rire les autres.
9. Ceux qui commencent la chicane à propos de rien.
10. Ceux qui ne semblent jamais s'amuser.
11. Ceux qui sont bouleversés quand ils ont à répondre aux questions en classe.
12. Ceux qui disent aux autres enfants quoi faire.
13. Ceux qui sont d'habitude les derniers choisis pour participer à activités de groupe.
14. Ceux que tout le monde aime.
15. Ceux qui s'empêchent tout le temps et se mettent en difficultés.
16. Ceux qui rient des gens.
17. Ceux qui ont très peu d'amis.
18. Ceux qui font des choses bizarres.

## APPENDIX G Continued

19. Ceux qui sont vos meilleurs amis.
20. Ceux qui ennuiant les gens qui essaient de travailler.
21. Ceux qui se mettent en colère quand ça ne marche pas comme ils veulent.
22. Ceux qui ne portent pas attention au professeur.
23. Ceux qui sont impolis avec le professeur.
24. Ceux qui sont malheureux ou tristes.
25. Ceux qui sont particulièrement gentils.
26. Ceux qui se comportent comme des bébés.
27. Ceux qui sont méchants et cruels avec les autres enfants.
28. Ceux qui souvent ne veulent pas jouer.
29. Ceux qui vous regardent de travers.
30. Ceux qui veulent faire les fins devant la classe.
31. Ceux qui disent qu'ils peuvent battre tout le monde.
32. Ceux que l'on ne remarque beaucoup.
33. Ceux qui exagèrent et racontent des histoires.
34. Ceux qui se plaignent toujours et qui ne sont jamais contents.
35. Ceux qui semblent toujours comprendre ce qui se passe.

Students are instructed to nominate the four girls who are best described by each of the following items.

1. Celles qui agissent plus jeunes que leur âge.
2. Celles qui aident les autres.
3. Celles qui ne sont pas capables de rester assises tranquilles.
4. Celles qui essaient de mettre les autres dans le trouble.

## APPENDIX G Continued

5. Celles qui sont trop timides pour se faire des amis facilement.
6. Celles qui se sentent trop facilement blessées.
7. Celles qui prennent des airs supérieurs et qui pensent qu'elles valent mieux que tout le monde.
8. Celles qui font les clowns et font rire les autres.
9. Celles qui commencent la chicane à propos de rien.
10. Celles qui ne semblent jamais s'amuser.
11. Celles qui sont bouleversées quand elles ont à répondre aux questions en classe.
12. Celles qui disent aux autres enfants quoi faire.
13. Celles qui sont d'habitude les dernières choisies pour participer à des activités de groupe.
14. Celles que tout le monde aime.
15. Celles qui s'empêtrant tout le temps et se mettent en difficultés.
16. Celles qui rient des gens.
17. Celles qui ont très peu d'amis.
18. Celles qui font des choses bizarres.
19. Celles qui sont vos meilleures amies.
20. Celles qui ennuiant les gens qui essaient de travailler.
21. Celles qui se mettent en colère quand ça ne marche comme elles veulent.
22. Celles qui ne portent pas attention au professeur.
23. Celles qui sont impolies avec le professeur.
24. Celles qui sont malheureuses ou tristes.
25. Celles qui sont particulièrement gentilles.
26. Celles qui se comportent comme des bébés.

## APPENDIX G Continued

27. Celles qui sont méchantes et cruelles avec les autres enfants.
28. Celles qui souvent ne veulent pas jouer.
29. Celles qui vous regardent de travers.
30. Celles qui veulent faire les fines devant la classe.
31. Celles qui disent qu'elles peuvent battre tout le monde.
32. Celles que l'on ne remarque pas beaucoup.
33. Celles qui exagèrent et racontent des histoires.
34. Celles qui se plaignent toujours et qui ne sont jamais contentes.
35. Celles qui semblent toujours comprendre ce qui se passe.

APPENDIX H

## APPENDIX H

## French Translation of the CBCL

- I. Veuillez indiquer les sports auxquels votre enfant préfère participer. Par exemple: la nage, le baseball, le patinage, le rouli-roulant, la bicyclette, la pêche, etc.

\_\_\_\_\_ aucun

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

Comparé à d'autres enfants du même âge, a peu près combien de temps y passe-t-il/elle?

Moins que la moyenne

Comme la moyenne

Plus que la moyenne

a. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Comparé à d'autres enfants du même âge, avec quelle habileté pratique-t-il/elle chacun de ces sports?

Moins que la moyenne

Comme la moyenne

Plus que la moyenne

a. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## APPENDIX H Continued

- II. Veuillez indiquer les passe-temps, activités et jeux favoris de votre enfant, autres que les sports. Par exemple: collection de timbres, poupées, livres, piano, métier d'art, le chant, etc.

\_\_\_aucun

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

- Comparé à d'autres enfants du même âge, à peu près combien de temps y passe-t-il/elle?

Moins que la moyenne      Comme la moyenne      Plus que la moyenne

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

Comparé à d'autres enfants du même âge, comment se classe-t-il/elle dans chacune de ces activités?

Pire que la moyenne      Comme la moyenne      Mieux que la moyenne

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

## APPENDIX H Continued

III. Veuillez énumérer les organisations, clubs, équipes ou groupes auxquels votre enfant appartient.

\_\_\_ aucun

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

Comparé à d'autres enfants de même âge, jusqu'à quel point participe-t-il/elle à ces groupes?

Moins activement

Comme la moyenne

Plus activement

a. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

IV. Indiquez s.v.p. les emplois ou tâches de votre enfant. Par exemple: livraison de journaux, garde d'enfants, faire le lit, etc.

\_\_\_ aucun

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

Comparé à d'autres enfants du même âge, comment remplit-il/elle ces tâches?

Pire que la moyenne

Comme la moyenne

Mieux que la moyenne

a. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## APPENDIX H Continued

## V. 1. A peu près combien de "bons" amis a votre enfant?

☐ aucun                      ☐ 1  
☐ 2 ou 3                      ☐ 4 ou plus

## 2. A peu près combien de fois par semaine font-ils des choses ensemble?

☐ moins que 1                      ☐ 1 ou 2                      ☐ 3 ou plus

## VI. Comparé à d'autres enfants de son âge, comment votre enfant:

## a. s'entend-il/elle avec ses frères et soeurs

☐ Pire                      ☐ Comme la Moyenne                      ☐ Mieux

## b. s'entend-il/elle avec d'autres enfants

☐ Pire                      ☐ Comme la Moyenne                      ☐ Mieux

## c. se comporte-il/elle envers ses parents

☐ Pire                      ☐ Comme la Moyenne                      ☐ Mieux

## d. joue-t-il/elle et travaille-t-il/elle seul(e)

☐ Pire                      ☐ Comme la Moyenne                      ☐ Mieux

## VII. 1. Rendement scolaire actuel - pour enfants âgés de 6 ans et plus:

☐ n'en a pas à l'école

## a. lecture ou français

☐ Echec                      ☐ En-dessous de la moyenne

☐ Comme la moyenne                      ☐ Au-dessus de la moyenne

## b. composition

☐ Echec                      ☐ En-dessous de la moyenne

☐ Comme la moyenne                      ☐ Au-dessus de la moyenne

## APPENDIX H Continued

## c. arithmétique ou mathématiques

☐ Echec☐ En-dessous de la moyenne☐ Comme la moyenne☐ Au-dessus de la moyenne

## d. orthographe

☐ Echec☐ En-dessous de la moyenne☐ Comme la moyenne☐ Au-dessus de la moyenne

Autres sujets académiques par exemple: l'histoire, les sciences,  
une langue étrangère, la géographie

## e.

☐ Echec☐ En-dessous de la moyenne☐ Comme la moyenne☐ Au-dessus de la moyenne

## f.

☐ Echec☐ En-dessous de la moyenne☐ Comme la moyenne☐ Au-dessus de la moyenne

## g.

☐ Echec☐ En-dessous de la moyenne☐ Comme la moyenne☐ Au-dessus de la moyenne

## 2. Est-ce que votre enfant est dans une classe spéciale?

☐ non☐ oui, quel genre?

## 3. Est-ce que votre enfant a déjà doublé une année?

☐ non☐ oui, quelle année et pour quelle raison?

## APPENDIX H Continued

4. Veuillez décrire tout problème académique ou autre de votre enfant à l'école. \_\_\_\_\_  
 \_\_\_\_\_ aucun

## VIII.

Vous trouverez ci-dessous une liste d'items qui s'applique aux enfants.

Veuillez encercler le numéro 2 de chaque item qui est vrai ou souvent vrai pour votre enfant à présent ou qui a été vrai dans les 12 mois passés.

Encerclez le numéro 1 si l'item est quelques fois ou à peu près vrai.

Encerclez le 0 si l'item ne s'applique pas à votre enfant.

- |       |  |
|-------|--|
| 0 1 2 | 1. Se comporte d'une façon trop jeune pour son âge.  |
| 0 1 2 | 2. Allergie (décrivez): _____<br>_____   |
| 0 1 2 | 3. Se dispute beaucoup   |
| 0 1 2 | 4. Asthme  |
| 0 1 2 | 5. Se comporte comme l'autre sexe  |
| 0 1 2 | 6. Des selles en dehors de la toilette   |
| 0 1 2 | 7. Se vante  |
| 0 1 2 | 8. Ne peut pas concentrer son attention pour longtemps   |
| 0 1 2 | 9. Ne peut pas cesser de penser à certaines choses, à des obsessions<br>(décrivez): _____<br>_____ |
| 0 1 2 | 10. Ne peut pas rester assis(e): est agité(e), ou hyperactif(ve)                                   |
| 0 1 2 | 11. S'accroche aux adultes ou est trop dépendant   |
| 0 1 2 | 12. Se plaint de se sentir seul(e)   |
| 0 1 2 | 13. Confus ou semble être dans le brouillard   |

## APPENDIX H Continued

- |       |  |
|-------|--|
| 0 1 2 | 14. Pleure beaucoup  |
| 0 1 2 | 15. Cruel(le) envers les animaux   |
| 0 1 2 | 16. Cruel(le), brutal ou méchant envers les autres   |
| 0 1 2 | 17. Perdu dans ces rêveries ou ses pensées   |
| 0 1 2 | 18. Se fait mal exprès ou essaie de se suicider  |
| 0 1 2 | 19. Exige beaucoup d'attention   |
| 0 1 2 | 20. Détruit ses propres choses   |
| 0 1 2 | 21. Détruit des objets qui appartiennent à la famille ou à d'autres enfants.                                 |
| 0 1 2 | 22. Désobéissant(e) à la maison  |
| 0 1 2 | 23. Désobéissant(e) à l'école  |
| 0 1 2 | 24. N'a pas d'appétit  |
| 0 1 2 | 25. Ne s'entend pas avec d'autres enfants  |
| 0 1 2 | 26. Ne semble pas se sentir coupable après s'être mal comporté(e)  |
| 0 1 2 | 27. Facilement jaloux(se)  |
| 0 1 2 | 28. Mange ou boit autre chose que de la nourriture   |
| 0 1 2 | 29. A peur de certains animaux, de certains endroits ou situations en<br>dehors de l'école (décrivez): _____ |
| 0 1 2 | 30. A peur d'aller à l'école   |
| 0 1 2 | 31. A peur d'avoir des mauvaises pensées ou de faire quelque chose de<br>mal                                 |
| 0 1 2 | 32. Pense qu'il/elle doit être parfait(e)  |
| 0 1 2 | 33. Pense ou se plaint que personne ne l'aime  |
| 0 1 2 | 34. Pense qu'on le persécute   |
| 0 1 2 | 35. Se croit bon à rien ou inférieur(e)  |

## APPENDIX H Continued

- 0 1 2 36. Se fait souvent mal, est prédisposé(e) aux accidents
- 0 1 2 37. Se bagarre souvent
- 0 1 2 38. Se fait taquiner beaucoup
- 0 1 2 39. Fréquente des enfants qui s'attirent des ennuis
- 0 1 2 40. Croit entendre des sons qui n'existent pas (décrivez): \_\_\_\_\_
- 
- 0 1 2 41. Impulsif(ve) ou agit sans réfléchir
- 0 1 2 42. Aime la solitude
- 0 1 2 43. Ment ou triche
- 0 1 2 44. Ronge les ongles
- 0 1 2 45. Nerveux(se), stressé(e), tendu(e)
- 0 1 2 46. Mouvements nerveux ou contractions involontaires répétées  
(décrivez): \_\_\_\_\_
- 
- 0 1 2 47. Cauchemars
- 0 1 2 48. Pas aimé(e) par les autres enfants
- 0 1 2 49. Constipé(e), ne va pas à la selle
- 0 1 2 50. Trop peureux(se) ou anxieux(se)
- 0 1 2 51. A des étourdissements
- 0 1 2 52. Se sent trop coupable
- 0 1 2 53. Mange trop
- 0 1 2 54. Trop fatigué(e)
- 0 1 2 55. Pèse plus que la moyenne

## APPENDIX H Continued

56. Problèmes physiques sans cause médicale connue
- 0 1 2 a. des douleurs ou maux
- 0 1 2 b. maux de tête
- 0 1 2 c. nausée, se sent mal
- 0 1 2 d. Problèmes avec les yeux (décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 e. éruptions ou autres problèmes de la peau
- 0 1 2 f. maux d'estomac ou crampes
- 0 1 2 g. vomissements
- 0 1 2 h. autre (décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 57. Attaque les gens physiquement
- 0 1 2 58. Joue dans son nez, se gratte la peau ou autres parties du corps  
(décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 59. Joue avec ses parties sexuelles en public
- 0 1 2 60. Joue trop avec ses parties sexuelles
- 0 1 2 61. Travaille mal à l'école
- 0 1 2 62. Mal coordonné(e) ou maladroit(e)
- 0 1 2 63. Préfère jouer avec des enfants plus âgés
- 0 1 2 64. Préfère jouer avec des enfants plus jeunes
- 0 1 2 65. Refuse de parler
- 0 1 2 66. Répète sans cesse certains actes; est compulsif (décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 67. S'enfuit de la maison

## APPENDIX H Continued

- 0 1 2 68. Hurle beaucoup
- 0 1 2 69. Renfermé(e), garde les choses pour soi
- 0 1 2 70. Voit des choses qui n'y sont pas (décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 71. Est timide ou facilement embarrassé(e)
- 0 1 2 72. Allume des feux
- 0 1 2 73. A des problèmes sexuels (décrivez): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 74. Fait le fin ou le bouffon
- 0 1 2 75. Est gêné(e) ou timide
- 0 1 2 76. Dort moins que la plupart des enfants
- 0 1 2 77. Dort plus que la plupart des enfants pendant le jour et/ou la nuit  
(décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 78. Se barbouille ou joue avec les selles
- 0 1 2 79. Problèmes d'élocution (décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 80. A le regard vague
- 0 1 2 81. Vole à la maison
- 0 1 2 82. Vole en dehors de la maison
- 0 1 2 83. Amasse ce dont il/elle n'a pas besoin (décrivez): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 84. Comportement étrange (décrivez): \_\_\_\_\_  
\_\_\_\_\_

## APPENDIX H Continued

- 0 1 2 85. Idées étranges (décrivez): \_\_\_\_\_  
 \_\_\_\_\_
- 0 1 2 86. Entêté(e), maussade, ou irritable
- 0 1 2 87. Soudains sauts d'humeur ou de sentiments
- 0 1 2 88. Boude beaucoup
- 0 1 2 89. Méfiant(e)
- 0 1 2 90. Sacre ou se sert de mots obscènes
- 0 1 2 91. Parle de se tuer
- 0 1 2 92. Parle dans son sommeil ou est somnambule (décrivez): \_\_\_\_\_  
 \_\_\_\_\_
- 0 1 2 93. Parle trop
- 0 1 2 94. Taquine beaucoup
- 0 1 2 95. Accès de colère, des crises, ou s'emporte facilement
- 0 1 2 96. Pense trop au sexe
- 0 1 2 97. Menace les gens
- 0 1 2 98. Suce le pouce
- 0 1 2 99. Trop préoccupé(e) par l'ordre ou la propreté
- 0 1 2 100. Difficultés à dormir (décrivez): \_\_\_\_\_  
 \_\_\_\_\_
- 0 1 2 101. Fait l'école buissonnière, manque l'école
- 0 1 2 102. Trop peu actif(ve), mouvements lents ou manque d'énergie
- 0 1 2 103. Malheureux(se), triste ou déprimé(e)
- 0 1 2 104. Exceptionnellement bruyant
- 0 1 2 105. Se sert d'alcool ou de drogues (décrivez): \_\_\_\_\_  
 \_\_\_\_\_



## APPENDIX H Continued

- 0 1 2 106. Vandalisme
- 0 1 2 107. Se mouille pendant la journée
- 0 1 2 108. Mouille le lit
- 0 1 2 109. Pleurniche
- 0 1 2 110. Voudrait appartenir à l'autre sexe
- 0 1 2 111. Retiré(e) ne se mêle pas aux autres
- 0 1 2 112. Se fait des soucis
- 0 1 2 113. Veuillez indiquer ci-dessous tout problèmes que votre enfant peut avoir et qui n'est pas indiqué ci-haut: \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

VEUILLEZ VOUS ASSURER D'AVOIR REPONDU A CHAQUE ITEM.

APPENDIX I

## APPENDIX I

## French Translation of the PSR

Maintenant, j'aimerais en savoir plus sur vos relations avec d'autres personnes. Pour chacune des phrases suivantes, veuillez nous indiquer la réponse qui s'applique le plus en suivant l'échelle ci-dessous:

Ressemble énormément à mon expérience	Ressemble beaucoup à mon expérience	Ressemble à peu près à mon expérience	Ne ressemble pas tellement à mon expérience	Ne ressemble pas du tout à mon expérience
1	2	3	4	5

1. \_\_\_\_\_ Peu importe ce qui arrive, je sais que ma famille sera toujours là si j'ai besoin d'elle.
2. \_\_\_\_\_ Quelquefois, je ne suis pas sûr(e) si je peux compter entièrement sur ma famille.
3. \_\_\_\_\_ Ma famille me laisse savoir qu'elle pense que je suis une personne de valeur.
4. \_\_\_\_\_ Les gens dans ma famille ont confiance en moi.
5. \_\_\_\_\_ Les gens dans ma famille m'aident à trouver des solutions à mes problèmes.
6. \_\_\_\_\_ Je sais que ma famille me soutiendra toujours.
7. \_\_\_\_\_ Quand je suis avec mes ami(e)s, je sais que je peux me détendre complètement et être moi-même.
8. \_\_\_\_\_ J'ai la même approche face à la vie que plusieurs de mes ami(e)s.
9. \_\_\_\_\_ Les personnes qui me connaissent ont confiance en moi et me respectent.

## APPENDIX I Continued

Ressemble énormément à mon expérience	Ressemble beaucoup à mon expérience	Ressemble à peu près à mon expérience	Ne ressemble pas tellement à mon expérience	Ne ressemble pas du tout à mon expérience
1	2	3	4	5

10. \_\_\_\_\_ Quand je veux sortir pour faire quelque chose, je sais que plusieurs de mes amis aimeraient faire ces choses avec moi.
11. \_\_\_\_\_ J'ai au moins un(e) ami(e) à qui je peux tout dire.
12. \_\_\_\_\_ Je me sens très proche de quelques-un(e)s de mes ami(e)s.
13. \_\_\_\_\_ Les gens qui me connaissent pensent que je suis bon dans ce que je fais.
14. \_\_\_\_\_ Mes ami(e)s prendraient de leur temps pour discuter de mes problèmes si jamais je le voulais.
15. \_\_\_\_\_ Même quand je suis avec mes ami(e)s, je me sens seul(e).

APPENDIX J

## APPENDIX J

## Letter Sent to Parents

Avril 1983

Chers parents,

Nous vous écrivons pour vous inviter à participer à la recherche "L'Enfant Dans Son Milieu", qui se déroule à l'Université Concordia. Vous trouverez ci-inclus, les informations concernant le project et ce qu'il implique.

"L'ENFANT DANS SON MILIEU"

Il s'agit d'un project de recherche qui a été mis sur pied en 1976 dans le but de savoir comment l'enfant et l'adolescent s'adaptent à leurs différents milieux de vie. Les principaux milieux sont la maison et l'école, et maintenant, pour certains, le milieu de travail. Tous n'ont pas la même façon d'envisager ces milieux et ce sont ces différences que nous voulons essayer de trouver. Votre participation est très importante, car à partir des résultats obtenus, nous pourrons venir en aide aux enfants qui ont de la difficulté à s'adapter à leur milieu dans une perspective préventive.

HISTORIQUE DU PROJECT

Le project a pu démarrer grâce à une subvention du Ministère des Affaires Sociales du Québec.

La sélection des sujets a été rendue possible avec l'aide de la Commission des Ecoles Catholiques de Montréal qui nous a permis, de 1976 à 1978, de faire passer des questionnaires de groupe à 4,000 élèves. De ce nombre, nous en avons retenus 1,700.

## APPENDIX J Continued

A partir de 1977, nous avons commencé les visites dans les familles et un peu plus de 215 d'entre elles nous ont reçus à leur domicile.

Depuis 1978, près de 300 enfants sont venus passer une journée avec nous à l'université pour participer à des activités de laboratoire. En 1979 et en 1980, nous avons fait une deuxième évaluation dans le milieu scolaire pour une partie de nos sujets.

ETAT ACTUEL DU PROJETLA VISITE A L'UNIVERSITE

Après avoir pris rendez-vous avec les parents de l'enfant ou de l'adolescent, nous allons chercher à leur domicile les enfants qui veulent venir vers les 8 heures du matin. Ils passent la journée avec nous. Ils participent à différentes activités et remplissent certains questionnaires.

Lors de cette visite, nous voulons essayer d'évaluer leur coordination physique, leur degré d'attention, leur capacité d'organiser de l'information, leur développement social, et leur émotivité. Tous ces aspects contribuent à l'adaptation de l'enfant dans son environnement. Nous les reconduisons à leur domicile à la fin de la journée, après leur avoir remis une somme d'au moins \$10.00 en guise de compensation et un billet de retour à l'école pour justifier leur absence si c'est nécessaire. Les enfants se présentent dans une tenue dans laquelle ils sont à l'aise et ils n'ont rien d'autre à apporter. Nous leur fournissons le repas et les collations lors des temps de repos de l'avant-midi et de l'après-midi.

Votre enfant est sur le marché du travail ...

Nous sommes tout spécialement intéressés à le rencontrer. Nous sommes prêts à prendre des arrangements spéciaux avec les adolescents qui sont déjà sur le marché du travail (visite

## APPENDIX J Continued

le soir ou la fin de semaine) s'il désirent collaborer et une somme de \$20.00 leur sera remise en guise de compensation.

LA VISITE DANS LA FAMILLE

Aussi après avoir pris rendez-vous avec les parents, nous nous présentons à leur domicile pour les rencontrer. Cette visite est pour nous l'occasion de voir comment fonctionne l'enfant et sa famille. Le tout se fait au moyen de questionnaires qui sont très simples à remplir. L'entrevue dure à peu près deux heures et elle a lieu au moment qui convient le mieux aux parents.

REMUNERATION DES PARTICIPANTS

En guise de rémunération pour le temps qu'ils consacrent, les participants et leur famille reçoivent un petit dédommagement.

Dans le cas de l'entrevue familiale, il s'agit d'une somme de \$25.00 qui leur est donnée lors de l'entrevue.

Pour les activités de laboratoire, les enfants, les adolescents reçoivent une somme de \$10.00 à \$20.00, dépendant de leur âge, en plus de leur dîner et des collations qui leur sont payées.

RESULTATS INDIVIDUELS

Tous les résultats sont strictement confidentiels. Seuls les principaux chercheurs et leurs assistants ont accès aux dossiers. Toutefois, les parents qui le désirent, de même que les participants âgés de plus de 18 ans, pourront obtenir les résultats des activités de laboratoire en communiquant avec nous. Tout en nous laissant un délai raisonnable de compilation des



## APPENDIX J Continued

résultats, un psychologue de l'Université retournera votre appel afin de vous donner les informations que vous désirez.

Nous vous invitons à retourner le formulaire de consentement dès que possible, que vous acceptiez de participer ou non. Si vous avez des questions à nous poser, n'hésitez pas à appeler notre secrétaire au numéro 879-7111, et nous nous ferons un plaisir de vous répondre.

Bien à vous,

Alex Schwartzman, Ph.D.

Professeur.

Centre de Recherche en Développement Humain

pièces-jointes

APPENDIX K

## APPENDIX K

## Calculation of Vectors

Vectors representing the following terms were calculated: Gender (G), G X GSI, G X SMAT, G X OPS, GSI X SMAT, and G X GSI X SMAT. The vector representing gender was created by assigning boys a value of '1' and girls a value of '0.' Interactions between gender and the three questionnaire measures were calculated by multiplying questionnaire scores by G. In order to calculate the interaction between the GSI and the SMAT, GSI scores were first reversed. High scores on the GSI represented high levels of symptomatology, while high scores on the SMAT represented high levels of marital adjustment. GSI scores were reversed in order to provide consistency with SMAT scores. This was accomplished by first multiplying GSI scores by -1 and then adding a constant of 82, since 81 was the highest score. Thus, a score of 30 was transformed to 52; a score of 81 was transformed to 1. The interaction term was obtained as a product of SMAT scores and reversed GSI scores. The triple interaction term was obtained as a product of GSI X SMAT and G.

APPENDIX L

## APPENDIX L

## Representativeness of the Preliminary High Risk Follow-Up Sample

In order to assess the representativeness of the 296 families in the preliminary high risk follow-up sample,  $Z$  scores for each PEI classification group were examined. Table 1 shows the mean  $Z$  score for each group in the preliminary sample. These scores are comparable to scores reported by Ledingham (1981) for the total high risk sample. For subjects in the Aggressive group, Ledingham reported mean Aggression  $Z$  scores ranging from 2.03 to 2.17 and mean Withdrawal  $Z$  scores ranging from -.51 to .32 across different gender and grade subgroups. These values are similar to the mean Aggression  $Z$  score of 2.11 and the mean Withdrawal  $Z$  score of -.26 obtained in the present sample of Aggressive subjects. Similar patterns occurred in the three other PEI categories, indicating that the preliminary follow-up sample was representative of the total high risk sample with respect to Aggression and Withdrawal  $Z$  scores.

Table L-2 shows the percentage of boys and girls who participated in the preliminary testing, broken down by grade and PEI classification category. Chi square tests were conducted to assess whether the distributions of the preliminary sample across PEI classification, grade, and gender were comparable to the distributions of the total high risk sample. The preliminary sample was disproportionately distributed across the four PEI classification groups,  $\chi^2 (3, N = 1770) = 8.20, p < .05$ . When boys and girls were tested separately, PEI category was significantly associated with participation in testing among boys,  $\chi^2 (3, N = 862) = 9.97, p < .05$ , but not among girls,  $\chi^2 (3, N = 908) = 1.80, p \geq .10$ . The participation rate for boys in the Control group was 15%, while participation rates for boys in the other three groups ranged from 21% to 25%. Thus, boys in the Control group were under-represented in the preliminary follow-up sample.

## APPENDIX L Continued

Table L-1

Mean Z-Scores on Aggression and Withdrawal for Children in Each PEI Category

Factor	PEI Category			
	A	W	A-W	C
<b>Aggression</b>				
M	2.10	-.55	1.61	-.14
SD	.33	.49	.52	.36
N	39	42	50	165
<b>Withdrawal</b>				
M	-.26	2.19	1.39	-.13
SD	.60	.30	.56	.34
N	39	42	50	165

Note. N = 296; A = Aggressive group; W = Withdrawn group;

A-W = Aggressive-Withdrawn group; C = Control group.

## APPENDIX L Continued

Table L-2

Percentage of Subjects Included in Preliminary Sample Out of Entire High Risk Sample

		PEI Category							
		A		W		A-W		C	
		n	%	n	%	n	%	n	%
Grade 1									
Boys		4	33	5	33	11	20	39	25
Girls		3	27	3	25	12	17	43	25
Grade 4									
Boys		10	29	10	29	10	33	24	17
Girls		11	39	2	7	10	21	18	9
Grade 7									
Boys		6	12	11	19	6	24	19	8
Girls		5	8	11	16	1	9	22	11

Note. Percentages were obtained by dividing the number of high risk subjects in each cell by the number who participated in the preliminary sample.

## APPENDIX L Continued

However, the preliminary follow-up sample included 82 Control boys, 20 Aggressive boys, 26 Withdrawn boys, and 27 Aggressive-Withdrawn boys. In view of the large size of the Control group, the lower rate of participation would have little effect on the generalizability of results. ✓

Results of the second chi square test indicated that participants in the preliminary follow-up testing were disproportionately distributed across the three grade levels,  $\chi^2 (2, N = 1770) = 35.57, p < .01$ . There was a systematic decline in participation as grade level increased. Nearly 25% of subjects initially in Grade 1 participated in the follow-up testing, compared to 11% of subjects who were initially in Grade 7. The older subjects were more likely to have changed addresses, and were therefore more difficult to contact. Results of the third chi square test indicated that boys and girls were proportionately represented in the preliminary follow-up sample,  $\chi^2 (1, N = 1770) = 1.74, p \geq .10$ .



APPENDIX M

## APPENDIX M

## Representativeness of the Sample Employed in Analyses by PEI Classification Category

Chi square tests were used to assess the distribution of parents who were excluded due to incomplete data sets across the four PEI categories. Separate tests were conducted for mothers and fathers, and for the samples of boys and girls. The results are shown in Table M-1. None of the values of chi square were statistically significant ( $p \geq .10$ ), suggesting that excluded subjects were randomly distributed across the four PEI categories.

Correlational techniques were used to assess the relationship of exclusion of subjects to demographic and questionnaire measures. A dummy variable was coded as "0" for subjects who were included in analyses of PEI classification group, and as "1" for subjects who were excluded due to missing data. Correlations between this dummy variable and seven demographic and four questionnaire measures were calculated. In order to control for alpha inflation, a multistage Bonferroni procedure, described by Larzelere and Mulaik (1977) was used, with data from each parent analyzed separately. A familywise alpha level of .10 was selected. Since there were 11 correlation coefficients for each parent, a per test alpha level of .009 was employed for the first stage. Since two correlation coefficients were found to be significant for each parent, the remaining correlation coefficients were assessed with a per test alpha level of .011 during a second stage. No further correlations were significant.

## APPENDIX M Continued

Table M-1

Number of Parents Included and Excluded in Analyses by PEI Category

Parents	PEI Category				
	A	W	A-W	C	T
Mothers of Boys <sup>a</sup>					
Included	12	12	14	50	88
Excluded	1	1	2	5	9
Mothers of Girls <sup>b</sup>					
Included	15	8	16	53	92
Excluded	0	2	0	6	8
Fathers of Boys <sup>c</sup>					
Included	10	10	9	46	75
Excluded	3	3	7	9	22
Fathers of Girls <sup>d</sup>					
Included	12	8	14	49	83
Excluded	3	2	2	10	17

Note. A = Aggressive group; W = Withdrawn group;

A-W = Aggressive-Withdrawn group; C = Control group.

Out of an N of 197, 180 mothers and 158 fathers were included.

a  $\chi^2 (3, N = 97) = .28, p \geq .10$

b  $\chi^2 (3, N = 100) = 5.03, p \geq .10$

c  $\chi^2 (3, N = 97) = 5.30, p \geq .10$

d  $\chi^2 (3, N = 100) = .39, p \geq .10$

## APPENDIX M Continued

As shown in Table M-2, similar patterns of correlations occurred for mothers and fathers. According to the criteria of the Bonferroni procedure, exclusion of parents was significantly correlated with number of children in the family and with birth order of the target child. These correlations were in the .20 range. Informal observations suggested that parents were sometimes distracted from the interview procedure by their children. The presence of more children may have interfered with the completion of all measures. According to the criteria of the Bonferroni procedure, none of the remaining demographic variables or questionnaire measures were significantly correlated with exclusion due to missing data. Subject characteristics explained an extremely small percentage of variance in the exclusion of subjects.

## APPENDIX M Continued

Table M-2

Correlations Between Dummy Variables Presenting Inclusion Versus Exclusion and  
Demographic and Questionnaire Measures

Measure	Mothers		Fathers	
	n	r	n	r
Child's Age	197	.09	197	.11
Age	197	.16 <sup>b</sup>	185	.13
Education	197	-.14 <sup>b</sup>	185	-.17 <sup>b</sup>
Prestige	196	-.03	178	-.02
Family Size	197	.21*	197	.19*
Birth Order	197	.21*	197	.19*
Marriage Length	197	.01	197	<.01
SD	191	.08	168	-.15
GSI	191	.01	168	-.06
SMAT	185	.04	164	.03
OPS	183	-.02	165	-.06

<sup>a</sup>A two-tailed two-stage Bonferroni procedure was employed for each parent separately.

<sup>p</sup>FW is based on the familywise Type I error rate; <sup>p</sup>T is based on the Type I error rate per test.

<sup>b</sup>Borderline significance; <sup>p</sup>T < .05.

\*<sup>p</sup>FW < .10, <sup>p</sup>T < .009.

APPENDIX N

## APPENDIX N

Representativeness of the Sample Employed in Analyses of the CBCL  
and the PSR

Chi square tests were used to compare families employed in the multiple regression analyses with families who had adolescents under the age of 18 years but were excluded due to missing data. Results of these tests are presented in Table N-1. None of the chi square tests indicated significant differences between included and excluded subjects in their distribution across PEI category ( $p \geq .10$ ).

Correlations between exclusion of subjects and seven demographic variables as well as eight questionnaire measures were calculated with the statistical procedure described in Appendix M. Again, a dummy variable representing exclusion was created. Correlations between this dummy variable and subject characteristics were evaluated with the Bonferroni procedure described by Larzelere and Mulaik (1977). As shown in Table N-2, exclusion of both mothers and fathers was significantly correlated with the age of the child when a familywise alpha level of .10 was employed. Correlations for both mothers and fathers were in the .30 range. Thus, parents with older children were less likely to complete all questionnaires.

## APPENDIX N Continued

Table N-1

Numbers of Parents with Adolescents Under the Age of 18 Who Were Included and Excluded from Multiple Regression Analyses

PEI Category					
Parents	Aggressive				Total
	Aggressive	Withdrawn	Withdrawn	Control	
Mothers of Boys <sup>a</sup>					
Included	7	3	10	37	57
Excluded	3	2	2	10	17
Mothers of Girls <sup>b</sup>					
Included	9	3	15	41	68
Excluded	1	1	1	10	13
Fathers of Boys <sup>c</sup>					
Included	5	3	7	33	48
Excluded	5	2	5	14	26
Fathers of Girls <sup>d</sup>					
Included	7	3	13	37	60
Excluded	3	1	3	14	21

Note. Out of an N of 155, 125 mothers and 108 fathers are included.

a  $\chi^2(3) = 1.44, p \geq .10$

b  $\chi^2(3) = 2.12, p \geq .10$

c  $\chi^2(3) = 1.60, p \geq .10$

d  $\chi^2(3) = 0.65, p \geq .10$



## APPENDIX N Continued

Table N-2

Correlations Between Inclusion in Multiple Regression Analyses Versus Exclusion and Subject Characteristics for Target Children Under the Age of 18 Years<sup>a</sup>

Mothers			Fathers		
Measure	N	r	Measure	N	r
Child's Age	155	.34*	Child's Age	155	.31*
Age	155	.17 <sup>b</sup>	Age	145	.20 <sup>b</sup>
Education	155	-.02	Education	145	.01
Prestige	154	-.07	Prestige	142	.03
N Children	155	.12	N Children	155	.12
Birth Order	155	.12	Birth Order	155	.11
Marriage Length	155	.10	Marriage Length	155	.07
SD	152	.02	SD	135	.03
GSI	151	-.01	GSI	134	-.06
SMAT	149	.02	SMAT	131	.10
OPS	147	.08	OPS	133	.08
SC	139	-.04	SC	124	-.07
TBP	140	.14	TBP	124	-.06
Child SD	150	.02	Child SD	150	-.04
Child PSR	147	-.01	Child PSR	147	.14

<sup>a</sup>A two-tailed two-stage Bonferroni procedure was employed for each parent separately. pFW is based on the familywise Type I error rate; pT is based on the Type I error rate per test.

<sup>b</sup>Borderline significance; pT < .05.

\*pFW < .10; pT < .007.

APPENDIX O

## APPENDIX O

### Comparisons Between the Samples Employed in Analyses by PEI Category and in Analyses of the CBCL and the PSR

Chi square tests and correlational techniques were again employed to compare (a) the sample who were employed both in the analyses of PEI classification category and in the analyses of the CBCL and the PSR, and (b) the sample who were employed in the analyses of the CBCL and the PSR but excluded from analyses of PEI classification category. As shown in Table O-1, values of chi square were significant for mothers of boys,  $\chi^2 (3, N = 99) = 10.67, p < .05$ , mothers of girls,  $\chi^2 (3, N = 92) = 10.60, p < .05$  and fathers of boys,  $\chi^2 (3, N = 75) = 9.21, p < .05$ . This test showed a trend towards significance among fathers of girls,  $\chi^2 (3, N = 83) = 7.81, p < .10$ . Inspection of cell frequencies displayed in Table O-1 suggests that disproportionate numbers of subjects in the Aggressive group and in the Withdrawn group were excluded from the multiple regression analyses.

As described in Appendix M, the Bonferroni procedure was used to assess correlations between subject characteristics and a dummy variable representing either (a) inclusion in analyses of PEI category, of the CBCL, and of the PSR, or (b) inclusion only in analyses of the CBCL and of the PSR. The results are shown in Table O-2. According to the criteria of the Bonferroni procedure with a familywise alpha level of .10, exclusion of mothers was significantly correlated with child's age,  $r = .77$ , mother's age,  $r = .34$ , duration of marriage,  $r = .28$ , and mother report TBP scores,  $r = .29$ . Exclusion of fathers was significantly correlated with child's age,  $r = .75$ , father's age,  $r = .31$ , and duration of marriage,  $r = .28$ . According to the Bonferroni criteria, none of the other demographic or questionnaire measures were significantly correlated with exclusion of either mothers or fathers ( $p \geq .10$ ).

## APPENDIX O Continued

Table O-1

Number of Parents Employed in Analyses of PEI Category Who Were Included and Excluded From Analyses of the CBCL and the PSR

Parents	PEI Category				Total
	Aggressive	Withdrawn	Aggressive- Withdrawn	Control	
Mothers of Boys <sup>a</sup>					
Included	7	3	10	37	57
Excluded	5	9	4	13	31
Mothers of Girls <sup>b</sup>					
Included	9	3	15	41	68
Excluded	6	5	1	12	24
Fathers of Boys <sup>c</sup>					
Included	5	3	7	33	48
Excluded	5	7	2	13	27
Fathers of Girls <sup>d</sup>					
Included	7	3	13	37	68
Excluded	5	5	1	12	23

**Note.** Out of an N of 180 mothers and 158 fathers employed in analyses of the PEI, 125 mothers and 108 fathers were included in the multiple regression analyses.

<sup>a</sup> $\chi^2(3) = 10.67, p < .05$

<sup>b</sup> $\chi^2(3) = 10.60, p < .05$

<sup>c</sup> $\chi^2(3) = 9.21, p < .05$

<sup>d</sup> $\chi^2(3) = 7.81, p < .10$

## APPENDIX O Continued

Table O-2

Correlations Between Inclusion in Analyses of the CBCL and PSR Versus Exclusion and Subject Characteristics for Target Children Employed in Analyses by PEI Category<sup>a</sup>

Mothers			Fathers		
Measure	N	r	Measure	N	r
C Age	180	.77*	C Age	158	.75*
M Age	180	.34*	F Age	158	.31*
M Education	180	-.02	F Education	158	-.04
M Prestige	179	-.11	F Prestige	151	-.02
N Children	180	.11	N Children	158	.10
Birth Order	180	.09	Birth Order	158	.06
Mar. Length	180	.28*	Mar. Length	158	.28*
M SD	180	-.03	F SD	158	.12
M GSI	180	.01	F GSI	158	.04
M SMAT	180	-.05	F SMA	158	.06
M OPS	180	.06	F OPS	158	.13
M TC	148	-.21 <sup>b</sup>	F TC	135	-.21 <sup>b</sup>
M TBP	153	.29*	F TBP	137	.19 <sup>b</sup>
C SD	167	.02	C SD	145	.02
C PSR	165	.04	C PSR	145	.10

<sup>a</sup>A two-tailed two-stage Bonferroni procedure was employed for each parent separately. pFW is based on the familywise Type I error rate; pT is based on the Type I error rate per test.

<sup>b</sup>Borderline significance; pT < .05

\*pFW N .10; pT < .007

APPENDIX P

## APPENDIX P

## Assumptions of ANOVAs of Demographic Variables and SD Scores

The Bartlett-Box test of homogeneity of variance indicated that this assumption was not violated in the case of child's age,  $F(7,12067) = 1.23, p \geq .05$ , mother's age,  $F(7,12067) = 1.60, p \geq .05$ , mother's education,  $F(7,12067) = 1.53, p \geq .05$ , father's education,  $F(7,8234) = .87, p \geq .05$ , mother's occupational prestige,  $F(7,12050) = 1.91, p \geq .05$ , and father's occupational prestige,  $F(7,4760) = .97, p \geq .05$ . However, significant heterogeneity occurred for father's age,  $F(7,8234) = 2.08, p < .05$ , and for duration of marriage,  $F(7,12067) = 2.05, p < .05$ . Given the unequal cell sizes, violation of this assumption may have biased the ANOVAs in an unpredictable direction. However, it was considered appropriate to include these variables in the context of other demographic measures.

For the Marlow-Crown Social Desirability Scale, the Bartlett-Box test indicated that the assumption of homogeneity of variance was not violated for either mothers  $F(7,12067) = .84, p > .05$ , or fathers,  $F(7,8234) = .34, p \geq .05$ .

## APPENDIX Q



## APPENDIX Q

## ANOVA Summary Table for Demographic Variables and SD Scores

TABLE Q-1

ANOVA Summary Table

Variable	df	SS	MS	F
Child's Age				
Gender	1	6.55	6.55	1.61
PEI	3	156.47	52.16	12.78***
Gender X PEI	3	3.07	1.02	.25
Within Cells	172	701.87	4.08	
Mother's Age				
Gender	1	.57	.57	.01
PEI	3	1006.33	335.44	8.97***
Gender X PEI	3	133.16	44.39	1.19
Within Cells	172	6435.60	37.42	
Father's Age				
Gender	1	2.87	2.87	.06
PEI	3	1221.29	407.10	8.46***
Gender X PEI	3	105.77	35.26	.73
Within Cells	150	7217.61	48.12	
Duration of Marriage				
Gender	1	1.19	1.19	.03
PEI	3	440.53	146.84	4.09***
Gender X PEI	3	41.73	13.91	.39
Within Cells	172	6178.20	35.92	

## APPENDIX Q Continued

Table Q-1 Continued

Variable	df	SS	MS	F
Mother's Education				
Gender	1	12.10	12.10	1.83
PEI	3	24.87	8.29	1.25
Gender X PEI	3	29.54	9.85	1.49
Within Cells	172	1139.23	6.62	
Father's Education				
Gender	1	10.62	10.62	1.12
PEI	3	14.06	4.69	.49
Gender X PEI	3	21.04	7.02	.74
Within Cells	150	1422.23	9.48	
Mother's Prestige				
Gender	1	127.39	127.39	1.74
PEI	3	307.69	102.56	1.40
Gender X PEI	3	348.29	116.10	1.58
Within Cells	171	12546.02	73.37	
Father's Prestige				
Gender	1	2.03	2.03	.01
PEI	3	991.47	330.49	1.79
Gender X PEI	3	481.64	160.55	.87
Within Cells	143	26397.93	184.60	

## APPENDIX Q Continued

Table Q-1 Continued

Variable	df	SS	MS	F
Mother SD				
Sex	1	4.29	4.29	.63
PEI	3	81.83	27.28	.23
Sex X PEI	3	28.38	9.46	.68
Within Cells	172	3240.13	18.84	
Father SD				
Sex	1	.65	.65	.03
PEI	3	107.85	35.95	1.63
Sex X PEI	3	4.73	1.58	.07
Within Cells	150	3302.00	22.01	

\*\*\* $p < .01$

APPENDIX R

## APPENDIX R

## Age and Duration of Marriage by PEI Category

Table R-1

Age and Duration of Marriage by PEI Category

Variable		PEI Category			
		Aggressive	Withdrawn	Aggressive- Withdrawn	Control
Child's Age	M	16.41 <sup>ab</sup>	17.80 <sup>a</sup>	14.85 <sup>c</sup>	15.07 <sup>bc</sup>
	SD	1.90	2.12	1.75	2.08
	n	27	20	30	103
Mother's Age	M	46.85 <sup>a</sup>	46.35 <sup>a</sup>	40.23 <sup>b</sup>	41.75 <sup>b</sup>
	SD	7.29	5.56	4.67	6.24
	n	27	20	30	103
Father's Age	M	51.14 <sup>a</sup>	49.00 <sup>ab</sup>	42.39 <sup>c</sup>	44.55 <sup>bc</sup>
	SD	9.89	6.75	4.83	6.50
	n	22	18	23	95
Duration of Marriage					
	M	23.78 <sup>a</sup>	22.45 <sup>ab</sup>	18.73 <sup>b</sup>	20.38 <sup>ab</sup>
	SD	7.83	4.99	4.27	5.96
	n	27	20	30	103

**Note.** Means designated with different superscripts are significantly different from each other according to Scheffé post hoc tests employing a .10 level of significance.

APPENDIX S

## APPENDIX S

**Correlations of Measures of Parental Adjustment with Demographic Characteristics and  
SD Scores**

Table S-1

**Correlations of Measures of Parental Adjustment with Demographic Characteristics and  
SD Scores**

Mother				Father			
Variable	GSI	SMAT	OPS	Variable	GSI	SMAT	OPS
Child's Age	-.03	-.08	.04	Child's Age	.07	<.01	.05
Age	-.03	-.07	.09	Age	-.04	.07	.09
Education	-.09	-.07	.01	Education	-.01	-.26***	-.02
Prestige	-.02	-.03	-.06	Prestige	-.03	-.16*	-.08
Duration of Marriage	-.02	<.01	.15*	Duration of Marriage	-.03	.10	.06
Family Size	.15**	-.11	.05	Family Size	.05	.02	.03
Birth Order	.02	-.05	.08	Birth Order	.08	.07	-.02
SD	-.27***	.16**	.24***	SD	-.47***	.38***	.33***
GSI		-.31***	-.35***	GSI		-.40***	-.48***
SMAT			.51***	SMAT			.61***

Note. For Mothers,  $df = 177$ ; For Fathers,  $df = 149$

\* $p < .10$  \*\* $p < .05$  \*\*\* $p < .01$  (one-tailed)

APPENDIX T



## APPENDIX T

## Evaluation of Assumptions of MANOVAs on Measures of Parental Adjustment

The frequency of univariate outliers on the SD, GSI, SMAT and OPS was assessed for each parent. Although Tabachnick and Fidell (1983) recommend that each cell be considered separately for the purpose of evaluating outliers, this procedure was not considered appropriate in the present context, as some cells consisted of less than 10 subjects. Instead, Z-scores for each parent were based on the samples of 180 mothers and 158 fathers respectively. Subjects with Z-scores greater than 3 or less than -3 were considered to be outliers. Two outliers were found on the father-report OPS. A maximum of one outlier per measure appeared on the three remaining father-report measures and on the four mother-report measures. The frequency of outliers was consistent with sample size, and did not appear to be problematic.

Homogeneity of regression slopes was assessed with an alpha level of .05. The multivariate factor-by-covariate interaction effect was not significant for either the mother-report measures, Pillai's criterion = .16,  $F(21,492) = 1.29$ ,  $p \geq .05$ , the father-report measures, Pillai's criterion = .18,  $F(21,426) = 1.28$ ,  $p \geq .05$ , or the measures completed by the reduced sample of mothers, Pillai's criterion = .15,  $F(21,426) = 1.09$ ,  $p \geq .05$ . Univariate F-Tests did not show a significant factor-by-covariate interaction for the father report GSI and OPS scores, nor for any of the mother report measures. However, the factor by covariate interaction was significant for fathers' SMAT scores,  $F(7,142) = 2.25$ ,  $p < .05$ . Further testing indicated that regression slopes differed across PEI category but not across gender. The analysis was therefore repeated with separate slopes for each PEI category. The significant effect of PEI classification category on father report SMAT score was replicated,  $F(3,146) = 6.63$ ,  $p < .01$ .

## APPENDIX T Continued

The assumption of homogeneity of variance-covariance matrices was assessed with Box's M test. The results indicated that this assumption was not violated by either the mother-report measures,  $M = 83.46$ ,  $F(70,8009) = 1.04$ ,  $p \geq .10$ , the father-report measures,  $M = 91.62$ ,  $F(70,5867) = 1.11$ ,  $p \geq .10$ , or measures completed by the reduced sample of mothers,  $M = 70.74$ ,  $F(20,5876) = .85$ ,  $p \geq .10$ .

Univariate homogeneity of variance was assessed with the Bartlett-Box test for mothers' and fathers' scores on the SD, GSI, SMAT, and OPS score. None of the results indicated significant heterogeneity of variance ( $p \geq .10$ ), suggesting that the assumption of homogeneity of variance is met by the data. Thus, the assumptions of MANOVA were met to a satisfactory degree.

2

APPENDIX U

## APPENDIX U

## MANOVAs on Mother Report Measures with Alternative Covariates

The MANCOVA for mother report measures was repeated without covariates and with child's age employed as covariate. Results are shown in Table U-1. When the analysis was repeated without covariates, the multivariate trend towards a significant PEI effect was replicated, Pillai's criterion = .09,  $F(9,516) = 1.82$ ,  $p < .10$ ,  $\eta^2 = .09$ . The significant univariate effect for the SMAT was not replicated. Univariate tests indicated trends towards significance for both the SMAT,  $F(3,172) = 2.40$ ,  $p < .10$ ,  $\eta^2 = .04$ , and the OPS,  $F(3,172) = 2.31$ ,  $p < .10$ ,  $\eta^2 = .04$ .

When child's age was employed as a covariate, it did not result in significant adjustment of the dependent measures, Pillai's criterion = .02,  $F(3,169) = 1.01$ ,  $p \geq .10$ . The multivariate trend towards a significant PEI effect was replicated, Pillai's criterion = .08,  $F(9,513) = 1.69$ ,  $p < .10$ ,  $\eta^2 = .09$ . The effect of PEI category showed a trend towards significance for the OPS,  $F(3,171) = 2.89$ ,  $p < .10$ ,  $\eta^2 = .04$ . However, the effect for the SMAT was not significant  $F(3,171) = 2.06$ ,  $p \geq .10$ . The use of child's age as a covariate apparently resulted in a more conservative test. Child's age did not produce significant adjustment of questionnaire scores. Inclusion of a nonsignificant covariate generally decreases the power of a test (Tabachnick & Fidell, 1983).

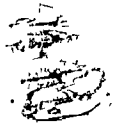
## APPENDIX U Continued

Table U-1

Univariate F Tests for PEI Effects on Measures of Maternal Adjustment with Alternative Covariates

Measure	Hypothesis MS	Error MS	F
Unadjusted			
GSI	43.42	102.17	.42
SMAT	1969.80	819.91	2.40*
OPS	73.11	31.97	2.32*
Adjusted for Child's Age			
GSI	66.41	102.32	.65
SMAT	1698.80	823.60	2.06
OPS	73.11	31.97	2.29*

Note.  $df = 3,171$ \* $p < .10$



## APPENDIX V

## APPENDIX V

## MANOVAs on Father Report Measures with Alternative Covariates

When the MANOVA on father report measures was repeated without covariates, the multivariate effect of PEI category showed a trend towards significance, Pillai's criterion = .10,  $F(9,450) = 1.71$ ,  $p < .10$ ,  $\eta^2 = .10$ . As shown in Table V-1, univariate tests indicated significant group differences only for the OPS,  $F(3,150) = 3.79$ ,  $p < .05$ ,  $\eta^2 = .07$ .

When the analysis was repeated with child's age employed as a covariate, the latter did not result in significant adjustment of scores, Pillai's criterion = .02,  $F(3,150) = 1.05$ ,  $p \geq .10$ . The multivariate effect of PEI category showed a trend towards significance, Pillai's criterion = .10,  $F(9,447) = 1.65$ ,  $p < .10$ ,  $\eta^2 = .09$ . Univariate tests indicated significant group differences only for the OPS,  $F(3,149) = 3.79$ ,  $p < .05$ ,  $\eta^2 = .07$ .

## APPENDIX V. Continued

Table V-1

Univariate F Tests for PEI Effects on Measures of Paternal Adjustment with Alternative Covariates

Type of Score	Hypothesis MS	Error MS	F
Unadjusted			
GSI	78.69	108.25	.72
SMAT	1178.56	756.08	1.56
OPS	153.55	40.56	3.79**
Adjusted for Child's Age			
GSI	53.91	108.68	.50
SMAT	1367.68	757.39	1.81
OPS	154.35	40.69	3.79**

Note. With SD employed as a covariate,  $df = 3,149$ . When no covariate is employed,  $df = 3,150$ .

\*\* $p < .05$



APPENDIX W

## APPENDIX W

## MANOVAs in Reduced Sample of Mothers

The MANOVA in the reduced sample of mothers was conducted with SD employed as a covariate, as well as without covariates. When SD was included, the multivariate test indicated that it provided significant adjustment for the dependent measures, Pillai's criterion = .11,  $F(3,147) = 6.23$ ,  $p < .001$ ,  $\eta^2 = .11$ . Results of multivariate tests on adjusted scores indicated a significant PEI effect, Pillai's criterion = .12,  $F(9,447) = 2.06$ ,  $p < .05$ ,  $\eta^2 = .12$ . The multivariate effect was not significant for either gender, Pillai's criterion = .00,  $F(3,147) = .03$ ,  $p \geq .10$ , or the interaction between PEI category and gender, Pillai's criterion = .06,  $F(9,447) = .96$ ,  $p \geq .10$ . The significant multivariate effect of PEI category was replicated when no covariates were employed, Pillai's criterion = .11,  $F(9,450) = 1.94$ ,  $p < .05$ ,  $\eta^2 = .11$ .

Results of univariate tests for PEI category effects on adjusted and unadjusted GSI, SMAT, and OPS scores are shown in Table W-1. PEI category showed a significant effect on adjusted SMAT scores,  $F(3,149) = 2.95$ ,  $p < .05$ ,  $\eta^2 = .06$ , and adjusted OPS scores,  $F(3,149) = 3.49$ ,  $p < .05$ ,  $\eta^2 = .07$ , but not adjusted GSI scores,  $F(3,149) = .65$ ,  $p \geq .10$ . When unadjusted scores were examined, PEI category showed a trend towards significance for the SMAT,  $F(3,150) = 2.48$ ,  $p < .10$ ,  $\eta^2 = .05$ , and a significant effect for the OPS,  $F(3,150) = 3.63$ ,  $p < .05$ ,  $\eta^2 = .07$ .

## APPENDIX W Continued

Table W-1

Univariate F Tests for PEI Effects on Mother Report GSI, SMAT, and OPS Adjusted and Unadjusted Scores in Reduced Sample of Mothers

Type of Score	Hypothesis MS	Error MS	F
Unadjusted for SD			
GSI	27.51	103.30	.27
SMAT	1865.00	751.50	2.48*
OPS	105.11	30.07	3.49**
Adjusted for SD			
GSI	61.76	94.31	.65
SMAT	2100.82	712.59	2.95**
OPS	105.11	30.07	3.49**

Note. With SD employed as a covariate,  $df = 3, 149$ .

When no covariate is employed,  $df = 3, 150$ .

\* $p < .10$     \*\* $p < .05$

## APPENDIX W Continued

Roy-Bargmann Stepdown F Tests were conducted on the adjusted questionnaire scores in order to assess whether either the SMAT or the OPS showed a significant PEI effect with respect to its unique variance. Results of these tests are shown in Table W-2. Again, two orders of entry were examined. The first corresponds to an implicit order of priority, with the GSI entered first, the SMAT entered second, and the OPS entered last. In this order, a significant PEI effect occurred for both the SMAT,  $F(3,148) = 2.78$ ,  $p < .05$ ,  $\eta^2 = .05$ , and the OPS,  $F(3,147) = 2.83$ ,  $p < .05$ ,  $\eta^2 = .05$ . However, when the order was reversed, a significant effect occurred only for the OPS,  $F(3,149) = 3.49$ ,  $p < .05$ ,  $\eta^2 = .07$ . These results replicated the results obtained from the father report measures, suggesting a significant difference between PEI categories in variance unique to the OPS.

Group means for adjusted and unadjusted GSI, SMAT, and OPS scores are shown in Table W-3. Since univariate test results showed significant PEI effects for adjusted SMAT and OPS scores, post hoc tests were conducted for these two measures. Again, Scheffé tests employing a .10 level of significance were used. SMAT scores were significantly lower among mothers in the Aggressive group than among mothers in the Aggressive-Withdrawn group. Maternal OPS scores in the Aggressive group were significantly different from scores in each of the other three groups. These results were consistent with results obtained in previous analyses indicating poorer functioning among parents of aggressive children.

## APPENDIX W Continued

Table W-2

Roy-Bargmann Stepdown F Tests for Mother Report Measures Adjusted for SD With Two Orders of Entry in Reduced Sample of Mothers

Order	df	Hypothesis MS	Error MS	Stepdown F
GSI, SMAT, OPS				
GSI	3,149	61.76	94.31	.65
SMAT	3,148	1807.81	651.28	2.78**
OPS	3,147	62.61	22.16	2.83**
OPS, SMAT, GSI				
OPS	3,149	105.11	30.08	3.48**
SMAT	3,148	957.30	548.40	1.75
GSI	3,147	86.32	82.55	1.05

\*\* $p < .05$

## APPENDIX W Continued

Table W-3

Mean Scores on the GSI, SMAT, and OPS for the Reduced Sample of Mothers in Each PEI Category

Measure	PEI Category			
	Aggressive	Withdrawn	Aggressive- Withdrawn	Control
<b>GSI</b>				
<b>M</b>	59.59	60.56	58.83	58.43
<b>Adj. M</b>	59.43	61.75	57.97	58.44
<b>SD</b>	10.11	8.61	13.41	9.50
<b>n</b>	22	18	23	95
<b>SMAT</b>				
<b>M</b>	97.18	109.26	118.49	111.89
<b>Adj. M</b>	97.53 <sup>a</sup>	106.70 <sup>ab</sup>	120.31 <sup>b</sup>	111.88 <sup>ab</sup>
<b>SD</b>	32.38	27.96	21.51	26.94
<b>n</b>	22	18	23	95
<b>OPS</b>				
<b>M</b>	25.00	30.56	29.13	28.37
<b>Adj. M</b>	25.07 <sup>a</sup>	30.03 <sup>b</sup>	29.50 <sup>b</sup>	28.37 <sup>b</sup>
<b>SD</b>	5.33	4.08	5.03	5.94
<b>n</b>	22	18	23	95

**Note.** Means with different superscripts are significantly different from each other according to the results of Scheffé post hoc tests ( $p < .10$ ).

APPENDIX X

## APPENDIX X

## Evaluation of Assumptions of Multiple Regression

The assumption of normality was assessed by inspection of the distributions of all measures. With the exception of the interaction terms, there were no major departures from normality. To assess the assumption of linearity, a sample of scatter plots depicting relationships between independent and dependent variables was obtained. There was no evidence of departures from linearity. Univariate outliers, or subjects scoring more than three standard deviations away from the mean, were assessed for all questionnaire measures and vectors. None of these measures had more than one outlier. Multivariate outliers were evaluated by routinely obtaining a significance tests based on Cook's distance. There were no multivariate outliers in any of the analyses. Homoscedasticity was assessed by examining plots of residuals. Major violations of this assumption were not apparent. Thus, the data met the assumptions of multiple regression.



## APPENDIX Y

## APPENDIX Y

## Correlations Among Measures of Maternal Adjustment

Table Y-1

Correlations Among Measures of Maternal Adjustment in Samples of Boys and Girls

	GSI	SMAT	OPS	GSI X SMAT
GSI		-.22*	-.16	-.89***
SMAT	-.38***		.51***	.58***
OPS	-.42***	.50***		.35***
GSI X SMAT	-.93***	.66***	.54	

Note. Correlations in sample of boys ( $N = 57$ ) are shown above the diagonal; correlations in sample of girls ( $N = 68$ ) are shown below the diagonal.

\* $p < .10$     \*\*\* $p < .01$

## APPENDIX Y Continued

Table Y-2

Correlations Among Measures of Maternal Adjustment in Full Sample

	G	GSI	SMAT	OPS	G X GSI	G X SMAT	G X OPS	GSI X SMAT	G X GSI X SMAT
G		.04	-.07	-.05	.91***	.86***	.91***	-.08	.86***
GSI			-.31***	-.33***	.14	-.04	-.05	-.89***	.17*
SMAT				.50***	-.12	>-.01	-.02	.66***	-.15
OPS					-.13	<.01	.07	.48***	-.16*
G X GSI						.72***	.77***	.19**	.97***
GxSMAT							.89***	.01	.56***
GxOPS								.02	.68***
GSI X SMAT									-.22**
G X GSI X SMAT									

Note. N = 125

\* $p < .10$  \*\* $p < .05$  \*\*\* $p < .01$

## APPENDIX Z

## APPENDIX Z

## Correlations Among Measures of Paternal Adjustment

Table Z-1

Correlations Among Measures of Paternal Adjustment in Samples of Boys and Girls

	GSI	SMAT	OPS	GSI X SMAT
GSI		-.50***	-.61***	-.93***
SMAT	-.36***		.52***	.74***
OPS	-.37***	.64***		.65***
GSI X SMAT	-.94***	.62***	.52***	

Note. Correlations in sample of boys ( $N = 48$ ) are shown above the diagonal; correlations in sample of girls ( $N = 60$ ) are shown below the diagonal.

\*\*\* $p < .01$

## APPENDIX Z Continued

Table Z-2

Correlations Among Measures of Paternal Adjustment in Full Sample

	G	GSI	SMAT	OPS	G X GSI	G X SMAT	G X OPS	GSI X SMAT	G X GSI X SMAT
G		-.02	-.03	.06	.90***	.84***	.88***	.02	.85***
GSI			-.43***	-.48***	.02	.02	.02	-.92***	.01
SMAT				.56	<.01	-.04	.01	.71**	.02
OPS					.08	.09	.10	.59***	.07
G X GSI						.66***	.69***	<.01	.98***
G X SMAT							.89***	-.02	.51***
G X OPS								<.01	.59***
GSI X SMAT									.02

Note. N = 108

\*\*p &lt; .05 \*\*\*p &lt; .01

## APPENDIX AA

## APPENDIX AA

Regression of Demographic Variables and Mother Report SD Score  
on Mother Report SC Score

Table AA.1

Stepwise Regression of Demographic Variables and Mother Report SD Score on Mother  
Report SC Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
Sample of Boys					
Prestige	.32**	.10**	.33***	.11	.32**
Number of Children	.42***	.07***	-.41***	.14	-.28**
Length of Marriage	.55***	.12***	.47***	.17	.21
Child's Age	.61***	.08**	-.29**	.08	-.20

$R = .61$ ,  $R^2$  adjusted = .33,  $F(4,52) = 7.81$ ,  $p < .01$

## Sample of Girls

Prestige	.47***	.23***	.47***	.23	.47***
----------	--------	--------	--------	-----	--------

$R = .47$ ,  $R^2$  adjusted = .21,  $F(1,66) = 19.19$ ,  $p < .01$

## Combined Sample of Boys and Girls

Prestige	.42***	.18***	.32***	.07	.42***
Education	.45***	.03**	.20**	.03	.36***

$R = .45$ ,  $R^2$  adjusted = .19,  $F(2,122) = 15.87$ ,  $p < .01$

\*\* $p < .05$  \*\*\* $p < .01$



APPENDIX BB

## APPENDIX BB

## Regression of Measures of Maternal Adjustment on Mother Report SC Score

Table BB-1

Hierarchical Regression of Measures of Maternal Adjustment on Mother Report SC Score

Predictor	R	R <sup>2</sup> Change	Beta	sr <sup>2</sup>	t
Sample of Boys					
GSI	.14	.02	.19	.03	.14
SMAT	.23	.03	.14	.01	.14
OPS	.24	.01	.09	.01	.13
R = .24, R <sup>2</sup> adjusted = .06, F(3,53) = 1.11, p ≥ .10					
Sample of Girls					
GSI	.18	.03	-.21	.03	-.18
SMAT	.18	<.01	.04	<.01	.07
OPS	.20	.01	-.11	.01	>-.01
R = .20, R <sup>2</sup> adjusted = -.01, F(3,64) = .88, p ≥ .10					
Combined Sample of Boys and Girls					
G	.05	<.01	-.04	<.01	-.05
GSI	.07	<.01	-.03	<.01	-.06
SMAT	.11	.01	.09	.01	.10
OPS	.11	<.01	-.01	<.01	.05
R = .11, R <sup>2</sup> adjusted = -.02, F(4,120) = .40, p ≥ .10					

## APPENDIX CC

## APPENDIX CC

## Regression of Demographic Variables and Father Report SD Score

## on Father Report SC Score

Table CC - 1

Stepwise Regression of Demographic Variables and Father Report SD Score on Father  
Report SC Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	t
Sample of Boys					
Child's Age	.29**	.08**	-.29**	.08	.29**
R = .29, R <sup>2</sup> adjusted = .06, F(1,46) = 4.24, p < .05					
Sample of Girls					
Father's Education	.36***	.13***	.36***	.13	.36***
R = .36, R <sup>2</sup> adjusted = .12, F(1,58) = 8.87, p < .01					
Combined Sample of Boys and Girls					
Father's Education	.29***	.08***	.25***	.06	.29***
Child's Age	.36***	.05**	-.22**	.04	-.25***
R = .36, R <sup>2</sup> adjusted = .11, F(2,105) = 7.64, p < .01					

\*p < .10 \*\*p < .05 \*\*\*p < .01

APPENDIX DD

## APPENDIX DD

## Regression of Measures of Paternal Adjustment on Father Report SC Score

Table DD-1

Hierarchical Regression of Measures of Paternal Adjustment on Father Report SC Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
Sample of Boys					
GSI	<.01	<.01	.09	<.01	<.01
SMAT	.06	<.01	-.15	.01	-.06
OPS	.21	.04	.27	.04	.13
R = .21, R <sup>2</sup> adjusted = -.02, F(3,44) = .69, p ≥ .10					
Sample of Girls					
GSI	.17	.03	-.08	.01	-.17
SMAT	.22	.02	.06	<.01	.20
OPS	.26	.02	.18	.02	.25*
R = .26, R <sup>2</sup> adjusted = .02, F(3,56) = 1.38, p ≥ .10					
Combined Sample of Boys and Girls					
G	.02	<.01	<.01	<.01	.02
GSI	.09	.01	>-.01	<.01	-.08
SMAT	.09	<.01	-.07	<.01	.07
OPS	.20	.03*	.23*	.03	.19**
R = .20, R <sup>2</sup> adjusted < .01, F(4,103) = 1.08, p ≥ .10					

\*p &lt; .10    \*\*p &lt; .05

## APPENDIX EE

## APPENDIX EE

## Regression of Demographic Variables and Mother Report SD Score on Mother Report

## TBP Score

Table EE - 1

Stepwise Regression of Demographic Variables and Mother Report SD Score on Mother Report TBP Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
Sample of Boys					
Social Desirability	.29**	.09**	-.29**	.09	-.29**
R = .29, R <sup>2</sup> adjusted = .07, F(1,55) = 5.12, p < .05					

Sample of Girls					
---	--	--	---	--	--
Combined Sample of Boys and Girls					
Social Desirability	.26***	.07***	-.26***	.07	-.26**
R = .26, R <sup>2</sup> adjusted = .06, F(1,123) = 8.79, p < .01					

\*p &lt; .10 \*\*p &lt; .05 \*\*\*p &lt; .01



APPENDIX FF

## APPENDIX FF

Regression of Measures of Maternal Adjustment and SD Score  
on Mother Report TBP Score

Table FF - 1

Hierarchical Regression of Measures of Maternal Adjustment and SD Score on Mother  
Report TBP Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	t
Sample of Boys					
SD	.29**	.09**	.21	.04	.29**
GSI	.30*	.01	-.04	<.01	-.13
SMAT	.39**	.06*	.22	.03	.31**
OPS	.39*	<.01	.07	<.01	.27**
$R = .39, R^2 \text{ adjusted} = .09, F(4,52) = 2.34, p < .10$					
Sample of Girls					
SD	.23*	.05	-.04	<.01	-.23*
GSI	.43***	.13***	.37***	.12	.42***
SMAT	.45***	.02	.27**	.07	.04
OPS	.55***	.08**	-.34**	.08	.37***
$R = .55, R^2 \text{ adjusted} = .24, F(4,63) = 6.15, p < .01$					
Combined Sample of Boys and Girls					
SD	.26***	.07***	-.14	.02	-.26***
G	.26**	<.01	.04	<.01	.06
GSI	.36***	.06***	.21**	.04	.31***
SMAT	.36***	<.01	.05	<.01	-.16
OPS	.42***	.04**	-.24**	.04	-.33***

$R = .42, R^2 \text{ adjusted} = .14, F(5,119) = 4.99, p < .01$

\* $p < .10$  \*\* $p < .05$  \*\*\* $p < .01$

APPENDIX GG

## APPENDIX GG

## Regression of Demographic Variables and Father Report SD Score

## on Father Report TBP Score

Table GG - 1

Stepwise Regression of Demographic Variables and Father Report SD Score on Father Report TBP Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	t
-----------	---	-----------------------	------	-----------------	---

## Sample of Boys

Social Desirability	.32**	.10**	-.32***	.10	.32***
---------------------	-------	-------	---------	-----	--------

$R = .32$ ,  $R^2$  adjusted = .08,  $F(1,46) = 5.11$ ,  $p < .05$

## Sample of Girls

Social Desirability	.38***	.14***	-.38***	.14	.38***
Occupational Prestige	.45***	.06**	-.25**	.06**	-.23*

$R = .45$ ,  $R^2$  adjusted = .17,  $F(2,57) = 7.17$ ,  $p < .01$

## Combined Sample of Boys and Girls

Social Desirability	.35***	.12***	-.39***	.15	-.35***
Child's Age	.40***	.04**	.20**	.04**	.12

$R = .40$ ,  $R^2$  adjusted = .16,  $F(2,105) = 10.22$ ,  $p < .01$

\* $p < .10$  \*\* $p < .05$  \*\*\* $p < .01$

## APPENDIX HH

## APPENDIX HH

Regression of Measures of Paternal Adjustment, SD Score, and  
Demographic Characteristics on Father Report TBP Score

Table HH - 1

Hierarchical Regression of Measures of Paternal Adjustment and SD Score  
on Father Report TBP Score in the Sample of Boys

Predictor	<u>R</u>	<u>R</u> <sup>2</sup> change	Beta	<u>sr</u> <sup>2</sup>	<u>r</u>
SD	.32**	.10**	-.15	.02	-.32**
GSI	.43***	.08**	-.26	.03	.41***
SMAT	.43**	<.01	-.01	<.01	-.24*
OPS	.43*	.01	-.11	.01	-.32**

R = .44, R<sup>2</sup> adjusted = .12, F(4,43) = 2.55, p < .10

\*p < .10 \*\*p < .05 \*\*\* p < .01

## APPENDIX HH Continued

Table HH - 2

Hierarchical Regression of Measures of Paternal Adjustment, SD Score, and Occupational Prestige on Father Report TBP Score in the Sample of Girls

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	t
		<u>SD</u>			
SD	.38***	.14***	-.21	.03	-.38***
GSI	.45***	.06**	.26*	.04	.40***
SMAT	.45***	<.01	-.01	<.01	-.25**
OPS	.46***	.01	-.10	.01	-.27**

R = .46, R<sup>2</sup> adjusted = .16, F(4,55) = 3.71, p < .01

SD and Occupational Prestige

SD	.38***	.14***	-.21	.03	-.38***
Prestige	.45***	.06**	.27**	.07	.23*
GSI	.52***	.06**	.25*	.04	.40***
SMAT	.52***	<.01	.01	<.01	-.25**
OPS	.53***	.01	-.15	.01	-.27**

R = .53, R<sup>2</sup> adjusted = .22, F(6,53) = 3.57, p < .01

\*p < .10 \*\*p < .05 \*\*\* p < .01

## APPENDIX HH Continued

Table HH - 3

Hierarchical Regression of Measures of Paternal Adjustment, SD Score, and Child's Age on Father Report TBP Score in the Combined Sample of Boys and Girls

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	r
		<u>SD</u>			
SD	.35***	.12***	-.18*	.02	-.35***
G	.36***	.01	.09	.01	.09
GSI	.45***	.07***	.26**	.04	.40***
SMAT	.45***	<.01	-.01	<.01	-.25***
OPS	.46***	.01	-.11	.01	-.29***

R = .46, R<sup>2</sup> adjusted = .17, F(5,102) = 5.41, p < .01

SD and Child's Age

SD	.35***	.12***	-.23**	.03	-.35***
Age	.40***	.04**	.15	.02	.12
G	.41***	<.01	.07	.01	.09
GSI	.47***	.06***	.25**	.04	.40***
SMAT	.48***	<.01	-.03	<.01	-.25***
OPS	.48***	<.01	-.07	<.01	-.29***

R = .48, R<sup>2</sup> adjusted = .18, F(6,101) = 5.04, p < .01

\*p < .10 \*\*p < .05 \*\*\* p < .01



## APPENDIX II

## APPENDIX II

Analyses of Mother Report TBP Score in Sample  
with Father Report TBP Score Available

The hierarchical regression analyses of mother report TBP scores were repeated in the sample for whom father report TBP scores were also available. As shown in Table II-1 the results replicated those obtained in the full sample of mothers. Among mothers of boys, the SMAT was the only variable which accounted for a significant proportion of variance in the criterion. This predictor explained 11% of the variance. Among mothers of girls, the GSI explained 22% of the variance in the criterion ( $p < .01$ ), while the OPS explained an additional 12% ( $p < .01$ ). In the combined sample of boys and girls, the results resembled those obtained in the sample of girls. The GSI explained 10% of the variance in the criterion ( $p < .01$ ) while the OPS explained 7% ( $p < .01$ ). This pattern of results was similar to that obtained in the larger sample of mothers, with the same measures contributing to predictability in both samples.

## APPENDIX II Continued

Table II - 1

Hierarchical Regression of Measures of Maternal Adjustment On Mother Report TBPScores in Sample with Father Data Available

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	t
-----------	---	-----------------------	------	-----------------	---

## Sample of Boys

GSI	.13	.02	.02	<.01	.13
SMAT	.36**	.11**	-.29	.05	-.36**
OPS	.37*	.01	-.11	.01	-.29**

R = .37, R<sup>2</sup> adjusted = .08, F(3,44) = 2.27, p < .10

## Sample of Girls

GSI	.46***	.22***	.43***	.16	.47***
SMAT	.48***	.01	.29**	.06	-.04
OPS	.59***	.12***	-.40***	.12	-.40***

R = .59, R<sup>2</sup> adjusted = .31, F(3,56) = 9.80, p < .01

## Combined Sample of Boys and Girls

G	.05	<.01	.02	<.01	.05
GSI	.32***	.10***	.26***	.06	.32***
SMAT	.33***	.01	.07	<.01	-.18*
OPS	.43***	.07***	-.32***	.07	-.35***

R = .43, R<sup>2</sup> adjusted = .15, F(4,103) = 5.71, p < .01

\*p < .10 \*\*p < .05 \*\*\*p < .01

APPENDIX JJ

## APPENDIX JJ

## Fischer's Z-Tests for Differences between Mothers and Fathers in Correlations

## Between SD Score and Measure of Adjustment

Table JJ-1

Values of  $r$  and  $Z$ 

	Mothers	Fathers	Z
Sample of Boys			
	$n = 57$	$n = 48$	
TBP	-.29**	-.32**	-.81
GSI	-.15	-.50***	9.77***
SMAT	.23*	.30**	1.87*
OPS	.36***	.29**	1.91*
Sample of Girls			
	$n = 68$	$n = 60$	
TBP	-.23*	-.38***	-4.23***
GSI	-.34***	-.50***	5.92***
SMAT	.10	.41***	10.20***
OPS	.27**	.32**	-1.67*
Full Sample			
	$n = 125$	$n = 108$	
TBP	-.28***	-.35***	.57
GSI	-.26***	-.50***	2.10**
SMAT	.16*	.36***	1.62
OPS	.30***	.30***	<.01

\* $p < .10$  \*\* $p < .05$  \*\*\* $p < .01$

APPENDIX KK

## APPENDIX KK

Regression of Demographic Variables and Mother Report SD Score  
on Child Report PSR Score

Table KK - 1

Stepwise Regression of Demographic Variables and Mother Report SD Score on Child  
Report PSR Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	z
Sample of Boys					
Number of Children	.42***	.18***	-.42***	.18	-.42***

$R = .42$ ,  $R^2$  adjusted = .16,  $F(1,55) = 11.92$ ,  $p < .01$

Sample of Girls					
	--	--	--	--	--

Combined Sample of Boys and Girls					
Child Social Desirability	.24***	.06***	-.23***	.05	.24***
Number of Children	.31***	.04**	.21**	.04	-.21**

$R = .31$ ,  $R^2$  adjusted = .08,  $F(2,122) = 6.69$ ,  $p < .01$

\*\* $p < .05$  \*\*\* $p < .01$

APPENDIX LL



## APPENDIX LL

Regression of Measures of Maternal Adjustment, SD Score, and Number of Children on

Child Report PSR Score in the Combined Sample of Boys and Girls

Table LL - 1

Hierarchical Regression of Measures of Maternal Adjustment, SD Score, and Number of  
Children on Child Report PSR Score in the Combined Sample of Girls and Boys

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	t
SD					
SD	.24***	.06***	.19**	.04	.24***
G	.24**	<.01	.05	<.01	.04
GSI	.28**	.02	-.06	<.01	-.15
SMAT	.33***	.03**	.16	.02	.25***
OPS	.33**	<.01	.07	<.01	.20**

R = .33, R<sup>2</sup> adjusted = .07, E(5,119) = 2.99, p < .01

SD and Number of Children					
SD	.24***	.06***	.18**	.03	.24***
Number of Children	.29***	.03**	-.16*	.02	-.18**
G	.30**	<.01	.07	<.01	.04
GSI	.32**	.01	-.05	<.01	-.15
SMAT	.36***	.03*	-.12	.01	.25***
OPS	.37***	.01	-.11	.01	.20**

\*p < .10 \*\*p < .05 \*\*\*p < .01

APPENDIX MM

## APPENDIX MM

Regression of Demographic Variables and Father Report SD Score on  
Child Report PSR Score

Table MM - 1

Stepwise Regression of Demographic Variables and Father Report SD Score on Child  
Report PSR Score

Predictor	R	R <sup>2</sup> change	Beta	sr <sup>2</sup>	t
Sample of Boys					
Number of Children	.51***	.26***	-.51***	.26	-.51***

R = .51, R<sup>2</sup> adjusted = .24, E(1,46) = 16.07, p < .01

Sample of Girls					
Child Social Desirability	.29***	.08	.29**	.08	.29***

R = .29, R<sup>2</sup> adjusted = .07, E(1,58) = 5.23, p < .5

Combined Sample of Boys and Girls					
Child Social Desirability	.28***	.08***	.27***	.07	.28***
Number of Children	.35***	.04**	-.21**	.04	-.23**

R = .35, R<sup>2</sup> adjusted = .11, E(2,105) = 7.46, p < .01

\*p < .10 \*\*p < .05 \*\*\*p < .01